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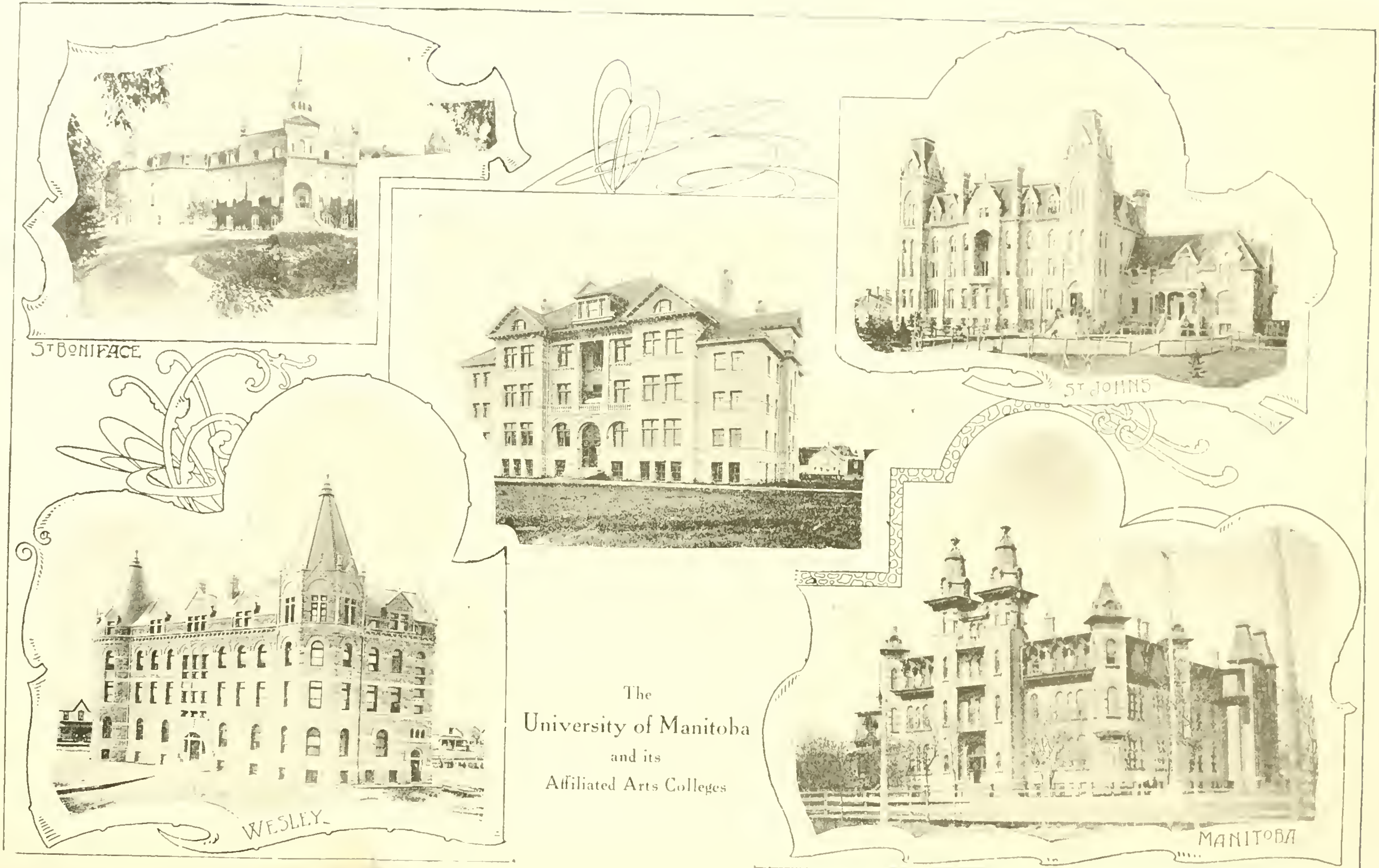
ANNUAL CALENDAR
SESSION 1911-1912



The
University of Manitoba
and its
Affiliated Arts Colleges

CALENDAR

University of Manitoba

WINNIPEG

Incorporated by Act of the Manitoba
Legislature, 1877

1911-1912

WINNIPEG
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1911

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UNIVERSITAS MANITOBANENSIS
1877

All communications relating to examinations, curricula, university standing and instruction are to be addressed to the Registrar of the University, while all correspondence respecting college instruction, residence, etc., is to be addressed to the Registrar or Secretary of the College concerned.

REGISTRAR OF THE UNIVERSITY
W. J. SPENCE, B.A.

SECRETARY OF THE UNIVERSITY FACULTY
N. B. MacLEAN, M.A.

RECTOR OF ST. BONIFACE COLLEGE
Rev. JOSEPH CARRIERE, S.J.

SECRETARY OF ST. JOHN'S COLLEGE
Very Rev. DEAN COOMBES, M.A.

REGISTRAR OF MANITOBA COLLEGE
F. W. CLARK, B.A.

REGISTRAR OF WESLEY COLLEGE
Rev. A. STEWART, D.D.

REGISTRAR OF MANITOBA MEDICAL COLLEGE
E. S. POPHAM, M.A., M.D., C.M.

REGISTRAR OF THE MANITOBA COLLEGE OF PHARMACY.
W. D. MacDOUGALL

REGISTRAR OF THE MANITOBA AGRICULTURAL COLLEGE
S. LARKIN, Esq.

ALMANAC, 1911-1912.

1911—AUGUST

22—Tu Last day for receiving applications for the September Examinations.

SEPTEMBER

6—W Board of Studies meets at 4 p.m.
Opening of ballots and declaring result of election of ten Representatives of Convocation to Council.
21—Th Supplemental and Matriculation Examinations begin.
28—Th Registrar to be notified on or before this date of appointments of Representatives to the Council and to the Board of Studies.

OCTOBER

2—M Registration.
3—Tu University lectures begin.
4—W Board of Studies meets at 4 p.m.
5—Th University Council meets at 3 p.m. Election of Vice-Chancellor and of Representative to the Board of Studies. Appointment of Committees. Bursar's yearly statement.
20—Fr University field day.

NOVEMBER

1—W Board of Studies meets at 4 p.m.

DECEMBER

6—W Board of Studies meets at 4 p.m.
7—Th University Council meets at 3 p.m.
13—W Payment of first moiety of Scholarships.
21—Th University Lectures close.

1912—JANUARY

3—W University Lectures begin.
Board of Studies meets at 4 p.m.

FEBRUARY

7—W Board of Studies meets at 4 p.m.
8—Th University Council meets at 3 p.m. Appointment of Examiners.

MARCH

1—Fri Last day for receiving Theses for the M.A. degree.
6—W Board of Studies meets at 4 p.m.

9—S Most Rev. R. Machray, D.D., LL.D., Archbishop of Rupert's Land, First Chancellor of the University, died, 1904.

16—S Last day for receiving applications for Examinations in Arts, Law, Medicine, Engineering and Agriculture.

25—M Examinations in Agriculture begin.

APRIL

3—W Board of Studies meets at 4 p.m.

4—Th University Council meets at 3 p.m. University lectures close and University Examiners meet at 5 p.m.

15—M Examinations in Arts, Law, Medicine and Engineering begin.

N.B.—The Practical Examinations in Arts, Medicine and Engineering will be held in April at a date to be selected by the Board of Studies.

MAY

1—W Board of Studies meets at 4 p.m.

8—W Payment of second moiety of the following Scholarships : Matriculation, First Year in Law, First and Second Years in Arts and Engineering, First, Second and Third Years in Medicine.

9—Th University Council meets at 3 p.m. to consider Reports of Examinations.

10—Fr Conferring of Degrees at 3 p.m. Meeting of Convocation.

11—S Last day for receiving applications for the Matriculation Examinations, and for Special Examination of candidates for Travelling Scholarship.

16—Th Payment of second moiety of the following Scholarships: Second Year in Law, Third Year in Arts and Engineering, Fourth Year in Medicine.

JUNE

5—W Board of Studies meets at 4 p.m.

6—Th University Council meets at 3 p.m.

11—Tu Matriculation Examinations begin. Special Examination of candidates for Travelling Scholarship begins.

THE UNIVERSITY OF MANITOBA

HISTORICAL SKETCH.

The University of Manitoba was established by Act of the Manitoba Legislature, in 1877, "for the purpose (as the preamble states) of raising the standard of higher education in the Province and of enabling all denominations and classes to obtain academic degrees." The government of the University was vested in a Chancellor, a Vice-Chancellor and a University Council, with powers as a "body politic and corporate" to receive, hold and sell property, to arrange courses of study, to hold examinations and to grant degrees. The Act provided for the affiliation of Colleges and for the granting of degrees in Divinity by those Colleges to students who should have obtained recognized academic standing in Arts subjects. The Chancellor was to be appointed by the Lieutenant-Governor-in-Council, and the University Council was to consist of seven representatives from each of the affiliated Colleges, three from Convocation and two from the Board of Education of the Province.

The three Colleges already in existence in Manitoba were affiliated with the University at its inception. St. John's, the Anglican institution, had been reorganized in 1866 by Bishop (afterwards Archbishop) Machray, who became in 1877 the first Chancellor of the University. St. Boniface had grown from a mission school early in the century to be the chief Roman Catholic College of the West. Manitoba College, in connection with the Presbyterian Church, had been organized in 1871. The Vice-Chancellor of the new University was the Hon. Joseph Royal; the Bursar was Mr. Duncan McArthur; and the Registrar Mr. E. W. Jarvis.

Since 1877 four Colleges have been received into affiliation with the University. The Manitoba Medical College was affiliated in 1882, Wesley College was affiliated in 1888, the Manitoba College of Pharmacy in 1902, and the Manitoba Agricultural College in 1907.

In 1885 an agreement between the Dominion Government and the Province of Manitoba provided for an endowment not exceeding 150,000 acres of land for the University of Manitoba "for its maintenance as a University capable of giving proper training in the higher branches of education."

In 1900 an amendment to the University Act gave the University "power to give instruction and teaching in the several faculties and different branches of knowledge as may from time to time be directed by the Council of the University." The present site was granted by the Dominion Government, and the corner-stone was laid in 1900 by the King, then Duke of Cornwall and York. Six new chairs were founded in 1904. A department of Civil Engineering was organized in 1907, and departments of Electrical Engineering, Political Economy, English and History in 1909.

The present staff consists of twenty-three professors, lecturers and demonstrators.

The University Council, the governing body of the University, consists at present of the Chancellor and sixty-five members, composed of seven representatives from each of the affiliated Arts Colleges, ten from Convocation, three from Manitoba Medical College, four from the College of Physicians and Surgeons of Manitoba, seven from the Provincial Government (exclusive of the Minister of Education, who is *ex officio* a member), three from the Manitoba College of Pharmacy, seven from the Manitoba Agricultural College, and two from the University Faculty.

COLLEGES AFFILIATED WITH THE UNIVERSITY

St. Boniface College, St. Boniface, in connection with the Roman Catholic Church. *Rector*—Rev. Father Carrière, S.J., St. Boniface College.

St. John's College, Winnipeg, in connection with the Church of England. *Warden*—Most Rev. Archbishop Matheson, D.D., D.C.L., Bishop's Court, St. Cross St. and Machray Ave.

Manitoba College, Winnipeg, in connection with the Presbyterian Church in Canada. *Principal*—Rev. Wm. Patrick, M.A., D.D., Manitoba Lodge, Ellice Ave.

Wesley College, Winnipeg, in connection with the Methodist Church in Canada. *Principal*—Rev. J. W. Sparling, M.A., D.D., 159 Kennedy St.

Manitoba Medical College, Winnipeg. Dean—H. H. Chown, B.A., M.D., C.M., 263 Broadway Ave.

Manitoba College of Pharmacy, Winnipeg. Principal—H. E. Bletcher, Phm.B., Afton Block, Ellice Ave.

Manitoba Agricultural College, Winnipeg. Principal—W. J. Black, B.S.A., Principal's Residence, Manitoba Agricultural College.

VISITOR

THE HON. SIR DANIEL HUNTER McMILLAN,
Lieutenant-Governor of Manitoba.

CHANCELLOR

MOST REV. S. P. MATHESON, D.D., D.C.L., Archbishop of Rupert's Land.

VICE-CHANCELLOR

THE HON. JOSEPH DUBUC, B.C.L., LL.D., formerly Chief Justice of Manitoba.

HON. BURSAR

J. A. M. AIKINS, M.A., K.C.

REGISTRAR

W. J. SPENCE, B.A.

SOLICITOR

I. PITBLADO, M.A., LL.B.

COUNCIL OF THE UNIVERSITY
1910-1911

Chairman

Most Rev. S. P. MATHESON, D.D., D.C.L., Archbishop of Rupert's Land, Chancellor.

Vice-Chairman

The Hon. JOS. DUBUC, B.C.L., LL.D., Vice-Chancellor.

Representatives of St. Boniface College

Rev. JOSEPH CARRIERE, S.J., Rector.
Rev. A. A. CHERRIER, Pt.
Rev. JOSEPH BLAIN, S.J.
The Hon. JOSEPH DUBUC, B.C.L., LL.D.
J. K. BARRETT, LL.D.
JOSEPH BERNIER, M.A.
JAMES McKENTY, M.D., C.M.

Representatives of St. John's College

Very Rev. DEAN COOMBES, M.A.
Ven. ARCHDEACON FORTIN, B.A., D.D.
Rev. CANON MURRAY, M.A.
Rev. CANON PHAIR, M.A.
Hon. T. MAYNE DALY, K.C.
J. A. MACHRAY, M.A., LL.B.
Rev. CANON MATHESON, M.A.

Representatives of Manitoba College

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Rev. GEORGE BRYCE, M.A., LL.D.
Rev. THOS. HART, M.A., D.D.
Rev. G. B. WILSON, M.A., LL.B., Ph.D.
Rev. E. GUTHRIE PERRY, B.A., Ph.D.
EDWARD BROWN, Esq.
GEORGE H. ROSS, B.A., LL.B.

Representatives of Wesley College

Rev. J. W. SPARLING, M.A., D.D., Principal.
J. A. M. AIKINS, M.A., K.C.
Rev. ANDREW STEWART, D.D.
J. H. ASHDOWN, Esq.
R. T. RILEY, Esq.
E. L. TAYLOR, K.C.
R. O. JOLLIFFE, B.A.

Representatives of Manitoba Medical College

H. H. CHOWN, B.A., M.D., L.R.C.P., Dean of Faculty.
S. W. PROWSE, B.A., M.D., F.R.C.S.
E. S. POPHAM, M.A., M.D., C.M.

Representatives of the College of Physicians and Surgeons

C. W. CLARK, M.D.
W. A. GARDNER, B.A., M.D., C.M.
J. S. GRAY, M.D., C.M.
E. L. POPE, M.D., C.M.

Representatives of Convocation

GORDON BELL, B.A., M.D., C.M.
F. W. CLARK, B.A.
D. M. DUNCAN, M.A.
J. HALPENNY, B.A., M.D., C.M.
J. R. JONES, M.D., L.R.C.P. (London).
E. LOFTUS, M.A., LL.B.
D. McINTYRE, M.A., Superintendent of Winnipeg Schools.
W. A. McINTYRE, B.A., LL.D., Principal of Normal School.
I. PITBLADO, M.A., LL.B.
W. J. SPENCE, B.A.

Representatives of the Provincial Government

The Hon. the MINISTER OF EDUCATION (ex officio).
R. FLETCHER, B.A.
S. CARSON LEE, M.A.
C. K. NEWCOMBE, B.A.
Rev. W. P. REEVE, B.A., B.D.
Rev. DAVID CHRISTIE, M.A.
STEPHEN BENSON, Esq.
R. N. LEA, Esq.

Representatives of the College of Pharmacy

H. E. BLETCHER, Phm.B., Principal.
E. D. MARTIN, Esq.
A. R. LEONARD, Esq.

Representatives of the University Faculty.

Voting Representatives

FRANK ALLEN, M.A., Ph.D., F.R.S.C.
E. E. BRYDONE-JACK, B.A., C.E. (Renss).

Non-voting Representatives

A. B. CLARK, M.A.
A. W. CRAWFORD, M.A., Ph.D.
E. P. FETHERSTONHAUGH, B.Sc.
CHESTER MARTIN, M.A. (Oxon).
M. A. PARKER, B.Sc., F.C.S.

Representatives of the Manitoba Agricultural College

W. J. BLACK, B.S.A., Principal.
G. A. SPROULE, B.A.
S. A. BEDFORD, Esq.
HUGH DYER, Esq.
WALTER JAMES, Esq.
J. PARENT, Esq.
ALEX. MORRISON, Esq.

CONVOCATION

Convocation consists of the Chancellor, the Vice-Chancellor, the members of the University Council, all University graduates in Manitoba registered in 1877, all graduates of the University and graduates in Theology from any of the colleges affiliated with the University.

The annual meeting of Convocation is held on the day of the conferring of degrees in May by the University, at the close of the public exercises, at which time nomination of candidates for representation on the Council is made.

THE BOARD OF STUDIES

The general superintendence of all examinations is entrusted to a Board called the Board of Studies, composed of members of the Council elected annually, as follows: Two by each of the affiliated Colleges in Arts, two by the Graduate Representatives, one by the College of Physicians and Surgeons of Manitoba, one by Manitoba Medical College, one by the Council, and two by the University Faculty.

It is the duty of the Board, also, to report to the Council, when they see fit, on the studies of the University, and other matters connected therewith, and generally to discharge all duties that may be assigned them by the Council.

Members of the Board, 1910-1911.

Rev. Father Cherrier, *Chairman.*

W. J. Spence, *Secretary.*

Rev. Father Cherrier
Rev. Father Blain
Very Rev. Dean Coombes
Rev. Canon Murray
Rev. Dr. Hart
Prof. F. W. Clark
Rev. Dr. Stewart
Prof. R. O. Jolliffe
Dr. H. H. Chown
Dr. J. S. Gray
Dr. J. R. Jones
Mr. D. M. Duncan
Prof. Frank Allen
Prof. E. E. Brydone-Jack
Mr. W. J. Spence

OTHER STANDING COMMITTEES OF THE UNIVERSITY COUNCIL—1910-1911.

University Land Board

Most Rev. Archbishop Matheson, *Chairman.*

Mr. J. A. M. Aikins
Rev. Dr. Sparling
Mr. R. T. Riley.
Mr. I. Pitblado
Mr. J. A. Machray

R. H. Shanks, *Secretary.*

Finance Committee

Rev. Dr. Sparling, *Chairman.*

Mr. J. A. M. Aikins
Mr. J. A. Machray
Dr. J. K. Barrett
Mr. Edward Brown
Mr. J. H. Ashdown
Professor Frank Allen
Mr. E. Loftus
Mr. E. D. Martin

W. J. Spence, *Secretary.*

Rhodes Scholarship Committee

Hon. Joseph Dubuc, *Chairman.*

Hon. Mr. Justice Richards
Dr. H. H. Chown
Hon. Mr. Judge Myers
Mr. W. J. Spence

W. J. Spence, *Secretary.*

Building and Grounds Committee

Prof. E. E. Brydone-Jack, *Chairman.*

Rev. Dr. Stewart
Mr. Geo. H. Ross
Dr. J. Halpenny
Mr. R. Fletcher

W. J. Spence, *Secretary.*

Library Committee

Professor Parker, *Chairman.*

Rev. Canon Phair
Rev. Dr. Wilson
Prof. E. E. Brydone-Jack
Rev. Dr. Perry
Prof. R. O. Jolliffe
Dr. J. R. Jones

Librarian—Mrs. W. H. Thompson.

UNIVERSITY FACULTY

Frank Allen, M.A., Ph.D., F.R.S.C., *Chairman.*

Neil Bruce MacLean, M.A., *Secretary.*

Frank Allen, M.A. (U.N.B., and Cornell), Ph.D. (Cornell), F.R.S.C. .... *Professor of Physics*

Gordon Bell, B.A. (Tor.), M.D., C.M. (Man.) .... *Professor of Bacteriology*

A. H. Reginald Buller, B.Sc. (Lond.), Ph.D. (Leipzig), D.Sc. (Birm.), F.R.S.C. .... *Professor of Botany*

Matthew A. Parker, B.Sc. (Glas.), F.C.S. .... *Professor of Chemistry*

Swale Vincent, M.D. (Lond.), D.Sc. (Edin.), M.R.C.S., L.R.C.P., F.R.S.S. E. & C. .... *Professor of Physiology and Zoology*

Ernest E. Brydone-Jack, C.E. (Renss.), M.Can.Soc.C.E., M.Am.Soc.C.E. .... *Professor of Civil Engineering*

Edward P. Fetherstonhaugh, B.Sc. (McGill), A. M. Can. Soc. C.E. .... *Professor of Electrical Engineering*

Arch. Brown Clark, M.A. (Edin.) .... *Professor of Political Economy*

Alexander W. Crawford, M.A. (Tor.), Ph.D. (Cornell) .... *Professor of English*

Chester B. Martin, M.A. (U.N.B.), M.A. (Oxon.) .... *Professor of History*

Neil Bruce MacLean, M.A. (Tor.) *Professor of Mathematics*

Henry P. Armes, B.Sc. (Leeds), Ph.D. (Strassburg) .... *Lecturer in Chemistry*

A. T. Cameron, M.A., B.Sc. (Edin.) .... *Lecturer in Physiology*

R. K. McClung, M.A. (McGill), B.A. (Cantab.), D.Sc. (McGill), F.R.S.C. .... *Lecturer in Physics*

John W. Dorsey, E.E. (Lehigh) .... *Lecturer in Electrical and Mechanical Engineering*

George Halstead, M.Sc. (Manch.) .... *Lecturer in Materials and Hydraulics*

Leslie I. Johnstone, B.S. (Maine) .... *Lecturer in Surveying and Geodesy*

Lesslie R. Thomson, B.A.Sc. (Tor), A. M. Can. Soc. C.E. .... *Lecturer in Civil Engineering*

Charles J. Triggerson, M.A. (McMaster), Ph.D. (Cornell), *Lecturer in Zoology*

ROBERT C. WALLACE, M.A., B.Sc. (Edin.), Ph.D. (Göttingen), *Lecturer in Geology and Mineralogy*

LLOYD A. H. WARREN, M.A. (Queen's).................................. *Lecturer in Mathematics*

OTHER MEMBERS OF THE TEACHING STAFF

T. A. NEELIN, B.A. (Man.) ....*Demonstrator in Physics*

BALDUR OLSON, B.A. (Man.) ....*Demonstrator in Chemistry*

INSTRUCTION IN THE UNIVERSITY

Instruction in the University is at present given in the Natural and Physical Sciences, in Civil and Electrical Engineering, in the Higher Mathematics and in English, History and Political Economy.

In all departments other than those in which the University offers teaching, students may obtain the necessary instruction either at one of the colleges affiliated with the University, or at some other recognized institution of learning.

UNIVERSITY EXAMINERS, 1911.

Arts

Classics: Very Rev. Dean Coombes, M.A.; A. T. Hawley, M.A.; Rev. T. Hudon, S.J.; R. O. Jolliffe, B.A.; F. W. Clark, B.A.; Rev. Canon Matheson, M.A.; R. A. MacLean, B.A.

Mathematics (First Year): Rev. J. F. Cross, M.A.; William Tier, M.A.; N. R. Wilson, M.A., Ph.D.; Rev. A. Leveillé, S.J.; N. B. MacLean, M.A.

Higher and Engineering Mathematics: N. B. MacLean, M.A.; L. A. H. Warren, M.A.

Physics (Special Courses): Frank Allen, M.A., Ph.D.; R K. McClung, M.A., D.Sc.; T. A. Neelin, B.A.

Physics (General Course): Frank Allen, M.A., Ph.D.; Rev J. F. Cross, M.A.; R. K. McClung, M.A., D.Sc.

Philosophy: Rev. J. W. Sparling, M.A., D.D.; Rev. Canon Murray, M.A.; Rev. A. B. Baird, M.A., D.D.; Rev. P Bournival, S.J.; Rev. James Elliott, B.A., Ph.D.; Rev. J. Dick Fleming, M.A., B.D.; W. A. Corbett, M.A., LL.B.

English: Rev. Canon Phair, M.A.; A. W. Crawford, M.A., Ph.D.; R. H. Rowland, B.A.; Rev. W. T. Allison, M.A., Ph.D.; C. F. Gillen, M.A.

French: A. D. Baker, M.A.; Rev. J. Filion, S.J.; C. F. Ward, M.A.; A. M. Bothwell, M.A.

German: A. D. Baker, M.A.; C. F. Ward, M.A.; A. M. Bothwell, M.A.

History (Special Courses): Chester Martin, M.A. (Oxon.); A. B. Clark, M.A.

Political Economy (Special Courses): A. B. Clark, M.A.; Chester Martin, M.A. (Oxon.).

History (First and Second Years): Rev. S. G. Bland, D.D.; Rev. A. B. Baird, M.A., D.D.; Rev. Canon Gill, M.A.; Rev. A. Dugré, S.J.

Botany: A. H. R. Buller, B.Sc., Ph.D., D.Sc.; Swale Vincent, M.D., D.Sc.

Geology and Mineralogy: R. C. Wallace, M.A., B.Sc., Ph.D.; A. H. R. Buller, B.Sc., Ph.D., D.Sc.

Zoology: Swale Vincent, M.D., D.Sc.; C. J. Triggerson, M.A., Ph.D.

Chemistry: M. A. Parker, B.Sc., F.C.S.; H. P. Armes, B.Sc., Ph.D.; Rev. A. Rousseau, S.J.

Physiology: Swale Vincent, M.D., D.Sc.; W. A. Gardner, B.A., M.D., C.M.; A. T. Cameron, M.A., B.Sc.

Icelandic: Rev. R. Marteinsson, B.A.; Rev. F. J. Bergmann, B.A.

Swedish: Emil Lundkvist; Rev. F. J. Bergmann, B.A.

Hebrew: Rev. A. Stewart, D.D.; Rev. E. G. Perry, B.A., Ph.D.

Scripture: Rev. A. Stewart, D.D.; Rev. E. G. Perry, B.A., Ph.D.; Rev. Canon Matheson, M.A.

Law

A. N. McPherson, M.A., LL.B.; D. W. McKerchar, M.A., LL.B.; David Forrester, M.A., LL.B.; E. Loftus, M.A., LL.B.; W. A. Corbett, M.A., LL.B.; George H. Ross, B.A., LL.B.

Medicine

Physics: Frank Allen, M.A., Ph.D.; R. K. McClung, M.A., D.Sc.

Zoology: Swale Vincent, M.D., D.Sc.; C. J. Triggerson, M.A., Ph.D.

Chemistry: M. A. Parker, B.Sc., F.C.S.; H. P. Armes, B.Sc., Ph.D.

Physiology (Second Year): Swale Vincent, M.D., D.Sc.; W. A. Gardner, B.A., M.D., C.M.; A. T. Cameron, M.A., B.Sc.

Physiology (Third Year): Swale Vincent, M.D., D.Sc.; W. R. Nichols, M.D., C.M.; A. T. Cameron, M.A., B.Sc.

Thoretical Anatomy (First Year): E. J. Evatt, M.B., B.S.; C. A. Parr, M.D., C.M.

Practical Anatomy (First Year): E. J. Evatt, M.B., B.S.; J. E. Coulter, M.D., C.M.

Theoretical Anatomy (Second Year): E. J. Evatt, M.B., B.S.; J. W. Armstrong, M.D., C.M.

Practical Anatomy (Second Year): E. J. Evatt, M.B., B.S.; S. J. Elkin, M.D., C.M.

Practical and Applied Anatomy (Third Year): Hugh Mackay, M.D., C.M.; J. A. Gunn, B.A., M.D., C.M.

Histology: Gordon Bell, B.A., M.D., C.M.; F. T. Cadham, B.A., M.D.

Pathology: Gordon Bell, B.A., M.D., C.M.: S. J. S. Peirce, B.A., M.D., C.M.

Bacteriology: Gordon Bell, B.A., M.D., C.M.; J. H. Leeming, M.D.

Therapeutics: C. Hunter, M.A., M.D.; Fred A. Young, B.A., M.B.

Materia Medica and Pharmacy: C. C. Field, M.D., C.M.; T. G. Hamilton, M.D.

Medical Jurisprudence: William Rogers, B.A., M.D., C.M.; W. Turnbull, M.D., C.M.

Sanitary Science: A. J. Douglas, B.A., M.D., C.M.; B. J. McConnell, M.D.

Theoretical Medicine (Fourth Year): J. R. Jones, M.D.; A. W. Moody, M.D., C.M.

Theoretical Medicine (Fifth Year): J. R. Jones, M.D.; William Chestnut, M.D., C.M.

Clinical Medicine: E. S. Popham, M.A., M.D., C.M.; John Macdonell, B.A., M.D., C.M.; E. L. Pope, M.D., C.M.

Theoretical Surgery (Fourth Year): B. J. Brandson, M.D., C.M.; D. S. Mackay, M.D., C.M.

Theoretical Surgery (Fifth Year): B. J. Brandson, M.D., C.M.; J. S. Poole, M.D., C.M.

Clinical Surgery: J. Halpenny, B.A., M.D., C.M.; James McKenty, M.D., C.M.; W. J. Harrington, M.D.

Obstetrics and Pediatrics: D. H. McCalman, B.A., M.D., C.M.; A. B. Alexander, B.A., M.D.

Gynaecology: R. M. Simpson, M.D., C.M.; R. J. Mattice, M.D., C.M.

Ophthalmology and Otology: W. Harvey Smith, M.A., M.D., C.M.; T. Turnbull, M.D.

C.M. Degree: H. H. Chown, B.A., M.D., C.M.; H. C. Cunningham, M.D., C.M.

Engineering

Civil Engineering: E. E. Brydone-Jack, B.A., C.E. (Renss.); G. Halstead, M.Sc.; L. I. Johnstone, B.S.; L. R. Thomson, B.A.Sc.

Electrical Engineering: E. P. Fetherstonhaugh, B.Sc.; J. W. Dorsey, E.E.

Agriculture

English: G. A. Sproule, B.A.; J. C. Hooper, M.A.

Physics: F. G. Churchill, B.S.A.; G. W. Morden, M.A., Ph.D., Doct. Ing.

Geology: F. G. Churchill, B.S.A.; F. W. Brodrick, B.S.A.

Meteorology: F. G. Churchill, B.S.A.; G. W. Morden, M.A., Ph.D., Doct. Ing.

Entomology: F. W. Brodrick, B.S.A.; J. C. Hooper, M.A.

Horticulture: F. W. Brodrick, B.S A.; C. H. Lee, M.A.

Forestry: F. W. Brodrick, B.S.A.; S. A. Bedford.

Botany: C. H. Lee, M.A.; F. W. Brodrick, B.S.A.

Bacteriology: C. H. Lee, M.A.; J. W. Mitchell, B.A.

Animal Biology: J. C. Hooper, M.A.; C. H. Lee, M.A.

Chemistry: G. W. Morden, M.A., Ph.D., Doct. Ing.; F. G. Churchill, B.S.A.

Animal Husbandry: W. H. Peters, B.S.A.; F. Torrance, B.A., D.V.S.

Field Husbandry: S. A. Bedford; W. J. Black, B.S.A.

Veterinary Science: F. Torrance, B.A., D.V.S.; C. D McGilvray, D.V.M.

Dairying: J. W. Mitchell, B.A.; W. J. Crowe; E. H. Farrell.

Agricultural Engineering: L. J. Smith, B.S.; R. B. Grey, B.S.

Civics: W. J. Black, B.S.A.; G. A. Sproule, B.A.

Mathematics (Fourth Year): J. C Hooper, M.A.; G. A. Sproule, B.A.

Matriculation

Classics: F. W. Clark, B.A.; Rev. Canon Matheson, M.A.; Rev. J. Filion, S.J.; D. M. Duncan, M.A.; W. J. Rose, B.A.; P. C. Dobson, B.A.; D. McDougall, B.A.

Mathematics: Rev. J. F. Cross, M.A.; R. Fletcher, B.A.; N. R. Wilson, M.A., Ph.D.; William Tier, M.A.; Rev. A. Leveillé, S.J.; W. G. Henderson, M.A.; A. C. Campbell, B.A.; E. Knapp, M.A.

Science: Alex. McIntyre, M.A.; William Tier, M.A.; N. R. Wilson, M.A., Ph.D.; R. T. Hodgson, B.A.; S. Carson Lee, M.A.

English: Rev. A. Stewart, D.D.; Rev. Canon Phair, M.A.; S. E. Lang, B.A.; George Young, B.A.; C. W. Laidlaw, B.A.; O. T. Gamey; C. F. Gillen, M.A.

French: Rev. John Filion, S.J.; A. M. Bothwell, M.A.; Miss A. L. Brunstermann; Rev. Canon Gill, M.A.; Miss M. C. Rowell, M.A.

German: A. D. Baker, M.A.; Miss A. L. Brunstermann; R. H. Rowland, B.A.; Miss M. C. Rowell, M.A.

Icelandic: Rev. R. Marteinsson, B.A.; Rev. F. J. Bergmann, B.A.

Swedish: Emil Lundkvist; Rev. F. J. Bergmann, B.A.

History: S. J. McKee, B.A., LL.D.; A. T. Cowley, M.A.; Rev. J. W. Melvin, B.A., B.D.; P. D. Harris, B.A.

Travelling Scholarship in Mathematics

N. B. MacLean, M.A.; Rev. J. F. Cross, M.A.

SUPPLEMENTAL AND MATRICULATION EXAMINATIONS, SEPTEMBER, 1911

Classics: F. W. Clark, B.A.; Rev. Canon Matheson, M.A.; W. J. Rose, B.A.

Mathematics: William Tier, M.A.; N. B. MacLean, M.A.

Matriculation Science: Alex. McIntyre, M.A.; Frank Allen, M.A., Ph.D.

Chemistry (Undergraduate): M. A. Parker, B.Sc., F.C.S.; H. P. Armes, B.Sc., Ph.D.

Matriculation English: C. W. Laidlaw, B.A.; R. H. Rowland, B.A.

English (Undergraduate): Rev. Canon Phair, M.A.; Rev. W. T. Allison, M.A., Ph.D.

French: Rev. J. Filion, S.J.; Rev. Canon Gill, M.A.

German: A. D. Baker, M.A.; A. M. Bothwell, M.A.

History: Rev. S. G. Bland, D.D.; A. T. Cowley, M.A.

Philosophy: Rev. Canon Murray, M.A.; Rev. James Elliott, B.A., Ph.D.

Requirements for Matriculation into the University of Manitoba

MATRICULATION FOR ARTS

Subjects of Examination

(a) All English-speaking candidates at this examination shall take the following fixed subjects:

English,
History,
Mathematics,
Latin.

And any two of the following optional subjects:

Greek,
French,
German,
Icelandic,
Swedish,
Elementary Science (Botany and Physics).

(b) L'examen d'immatriculation pour les candidats de langue française comprend le Français, l'Histoire, les Mathématiques, le Latin, et deux quelconques des sujets suivants: le Grec, l'Anglais, l'Allemand, l'Islandais, le Suédois, et la Science Élémentaire.

Division of Examination Into Stages

The subjects of this curriculum of studies may be taken at any regular examination, at one time, or may be divided into two parts as below, which may be taken at successive examinations. The parts must, however, be taken in the order as here given:

Part I.—English Grammar, Composition, English History, Canadian History, Arithmetic, Algebra, Geometry, Elementary Latin, and any two of the following options: Elementary Greek, Elementary French, Elementary German, Elementary Icelandic, Elementary Swedish, Botany.

Part II.—English, Mathematics, Latin, and any two of the following options:—Greek, French, German, Icelandic, Swedish, Physics.

Candidates presenting themselves for the full examination at one time shall not be required to take the papers on Composition, Algebra, Geometry, Latin, Greek, French, German, Icelandic or Swedish of Part I. Matriculation.

Examination by Subjects

Candidates who are not prepared to write on the full course may offer themselves at any regular examination in the whole of any subject or subjects of *both* parts of this programme, such as all the English (including History), or all the Mathematics, etc., and on passing a satisfactory examination they shall receive credit therefor; but no such candidate taking the examination according to subjects shall be allowed to proceed with the First Year until he has been examined in all the subjects and has satisfied the examiners in all save one subject.

Standing Required

Fifty marks are assigned to each of the following papers of Part I. Matriculation: English History, Canadian History, Algebra, Geometry; to each of the remaining papers of Part I. Matriculation and to each of the papers of Part II. Matriculation one hundred marks are assigned.

A candidate in order to pass in English must have 40 per cent. in each paper. To pass in any other paper a candidate must have 34 per cent. of the marks in that paper, and to pass the whole examination of either Part I. Matriculation or Part II. Matriculation, and be placed in Third Class, he must have 40 per cent. or more on the aggregate of the marks of the required papers. If he fail to obtain 40 per cent. he shall be required to take the whole examination again. To obtain Second Class standing he must have 50 per cent. or more on the aggregate of the required papers. To obtain First Class standing, Grade B, he must have 67 per cent. or more on the aggregate of the required papers. To obtain First Class standing, Grade A, he must have 80 per cent. or more on the aggregate of the required papers.

The same minimum percentages (except for Third Class) shall be used in determining a candidate's standing in an individual subject as upon the whole examination.

Candidates taking the examination by subjects, in order to secure any credit, shall be required to pass in half the papers they elect and to attain an average standing of 40 per cent. on all the papers they elect.

Supplemental Examinations

Candidates who fail in not more than two papers of Part I. Matriculation, or who fail in not more than three papers, of which English History and Canadian History are two, or of which Algebra and Geometry are two, and candidates who fail in not more than two papers of Part II. Matriculation, may take a supplemental examination in the papers in which they have failed, providing they have obtained the requisite standing on the aggregate of the marks.

Candidates who fail in more than two papers of Part I Matriculation, except as above indicated, and candidates who fail in more than two papers of Part II. Matriculation, shall be required to take the whole examination again, even though they have obtained the requisite standing on the aggregate of the marks.

In the case of a student failing in not more than two papers of Part I., or in not more than three papers, as above specified, he may take these papers when writing on Part II., and without additional fee.

Candidates, writing on Parts I. and II. Matriculation at the same examination, must obtain at least 40 per cent. on the aggregate of the marks of the required papers or they shall be obliged to take the whole examination again. The same minimum percentages for Third Class standing, Second Class standing, First Class standing, Grade B and First Class standing, Grade A, obtain as in the case of the Part I. Matriculation Examination or the Part II. Matriculation Examination.

Candidates, writing on Parts I. and II. Matriculation at the same examination, who fail in not more than three papers, may take a supplemental examination in the papers in which they have failed, providing they have obtained the requisite standing on the aggregate of the marks.

Candidates, writing on Parts I. and II. Matriculation at the same examination, who fail in more than three papers, shall be required to take the whole examination again, even though they have obtained the requisite standing on the aggregate of the marks. Candidates failing on four papers of which two are English History and Canadian History may be granted standing on the examination.

Candidates, taking the examination by stages and candidates writing upon the whole examination at one time, who have failed in not more than two papers (or three papers in the special cases indicated above), or who, having failed in three papers, have subsequently reduced the number of their conditions to two, and candidates taking the examination by subjects, who have been examined in all the subjects and have satisfied the examiners in all save one subject, may, as conditioned students, offer themselves for the examination of the First Year; but such conditions must in each case be removed before the commencement of the Second Year. (This regulation should be read in conjunction with the regulations relating to Supplemental Examinations. (See pages 223 to 219.)

The time allowed for each paper of the Matriculation Examination shall be three hours, except in the case of the English History, the Canadian History, the Algebra and the Geometry of Part I. Matriculation. In each of these subjects an hour and a half shall be allowed for the examination.

The Matriculation Examination is held in June of each year, commencing on the second Tuesday, and in September, commencing on the third Thursday. The examination in June is held in the University Building and at local centres as provided for under the University Rules and Regulations; the September examination is held at the University Building only.

Students passing the Matriculation Examination with first class grade "B" or higher standing may obtain from the Department of Education for Manitoba a Second Class non-professional Teacher's Certificate, upon passing examinations in Bookkeeping, Agriculture, Music, Drawing and Botany. A Third Class non-professional certificate is granted to students making Second Class standing in the Matriculation Examination. Students failing below Second Class standing receive no recognition whatever under the regulations of the Department of Education.

PART I.

English and History

Grammar—West's English Grammar.

Composition—An essay on one of several themes set by the examiners. In order to pass in this subject, legible writing, correct spelling and punctuation, and proper construction of sentences are indispensable. The candidate should also give attention to the structure of the whole essay, the effective ordering of the thought, and the accurate employment of a good English vocabulary. About two pages of foolscap is suggested as the proper length for the essay; but quality, not quantity, will be mainly regarded.

As a guide to teaching, Sykes' "Elementary Composition" is recommended.

The following texts are prescribed as affording models of style and material for work in composition. A general knowledge of their contents is required. One or more of the subjects for essay will be taken from them:

1912. GILBERT PARKER—"Seats of the Mighty."

1913. CHARLES DICKENS—"Barnaby Rudge."

History—WRONG'S British Nation. CLEMENT'S History of Canada.

FRENCH EQUIVALENTS.

Grammaire—LARIVE ET FLEURY: Grammaire Française.

Composition—Un essai sur un de plusieurs sujets indiqués par les examinateurs. L'écriture devra être lisible, l'orthographe et la ponctuation correctes, et la construction des phrases soignée. Il faudra aussi faire attention au plan général de la composition, à l'ordonnance des idées, et à la propriété des termes. Sa valeur dépendra plutôt de la qualité que de la quantité.

1912. *Modèles Français*—PROCÈS, Tomes II. et III.
Poésie.—Viennet, Tome II., pp. 382-383.
Andrieux, Tome III., pp. 283-288.
Nodier, Tome III., pp. 385-389.
Barbier, Tome III., pp. 558-561.
Prose.—Molière, Tome II., pp. 51-84.

Auteurs—DAUDET: "La Belle Nivernaise."
MOREAU: "La Souris Blanche."

Histoire—DRIOUX: Histoire d'Angleterre. BOURGEOIS: Histoire du Canada.

The English and History papers will be examined for spelling, and the examiners will include in their report a statement of the standing of each candidate in this regard. Students found deficient in this respect will be required to pass an examination in dictation before proceeding with their course.

Mathematics

Arithmetic and Mensuration—Advanced Arithmetic, omitting progressions and logarithms (Lyman or Hamblin Smith, New Edition)

Algebra and Geometry—Hall and Knight's Elementary Algebra, Chaps. I.—XVII., inclusive, together with a knowledge of graphs sufficient for the solution of equations of the first degree.

Baker's Elementary Plane Geometry, Inductive and Deductive. Stress will be laid on ability to construct figures accurately.

In the demonstration of theorems the starting point shall be the definitions given in the prescribed texts.

Latin

Hagarty's Introductory Latin Grammar, pages 1 to 270.

Greek

Burgess and Bonner, Elementary Greek, to end of Exercise 40.

French

(*a*) *Grammar.*—High School French Grammar (Fraser and Squair), Part I.

(*b*) *Composition.*—Translation of sentences and easy passages from English into French.

(*c*) *Sight Translation.*—Translation of unspecified passages from easy French authors. [For practice in sight translation, the following is recommended: Lazare, Lectures Faciles (Ginn & Co.)].

ENGLISH EQUIVALENT.

Dulac et Bonnet, Grammaire Anglaise, pages 1 à 164.

German

(*a*) *Grammar.*—High School German Grammar (Van der Smissen and Fraser, 1909 Edition), pages 1 to 146.

(*b*) *Composition.*—Translation of sentences and easy passages from English into German.

(*c*) *Sight Translation.*—Translation of unspecified passages from easy German authors. [For practice in sight translation, the following is recommended: P. S. Allen, Herein (Holt & Co.)].

Icelandic

Briem's Icelandic Grammar. Translation of easy passages from English into Icelandic and from Icelandic into English. Dictation and orthographical exercises. Selections from Melsted's Modern Authors. Short essays.

Swedish

Sundin s Swedish College Grammar. Translation of Swedish into English and English into Swedish. Writing Swedish from dictation Short essays. Selection from Modern Authors composed for Swedish Schools, Parts II. and IV.

Elementary Science—Botany

Germination.—A practical study of the pea, bean, sunflower, wheat and corn: Examination of the dry seeds as to external appearances. Examination of soaked seeds as to internal features. How does water enter the seed? Conditions favorable to germination: The living seed, warmth, moisture and air. Is light a necessary condition? The effect germinating seeds have upon the surrounding air. The early stages of the growth of root and shoot. Which develop the faster, the root or the shoot, and why? Root-hairs; root-cap. Origin and mode of root branching. The emergence of seedlings from the soil. The functions of the cotyledons. Bergen, Chapters 1, 2 and 3.

The Root and Its Work.—Origin: Primary, secondary, tertiary and adventitious. Medium—subterranean, aquatic (as illustrated by willow stems grown in water). Structure—as illustrated in the carrot, parsnip or dandelion. Function—anchoring the plant, absorbing food materials from the ground, storage. [In studying function, the living cell and osmotic action must be considered.] Bergen, Chapters 4 and 5.

The Stem and Its Work.—A study of the Manitoba maple twig as a substitute for the horse chestnut twig. Bergen, Chapter 6. The maple twig and the willow twig compared. Branching of twigs (bearing of this upon the habit of the plant as a whole). Classification of stems according to (1) amount of woody stem present, (2) duration of life, (3) direction or posture assumed by the stem, as trailing, twining, etc. Modified Stems: The onion, the potato, the cactus, the thorn, the strawberry and the smilax. Structure of the stem—a sufficient examination of cross-sections of exogenous and endogenous stems to bring out the following particulars: Bark, growth-layer, woody tissue, pith, medullary rays, growth in thickness, rings, heart-wood, sap-wood, knots. [In the above study of the stem structure, students are referred to the maple seedling or twig, and to the stem of the Indian corn.] Bergen, Chapters 6, 7, 8.

Buds—Structure, position, function. Students are referred to the cabbage head, the balm of Gilead, and the lilac. Bergen, Chapter 9.

The Green Leaf and Its Work.—Bergen, Chapters 10, 11, 12 and 13. Students will substitute the lilac leaf for the leaf of the horse chestnut. Microscopic work should be confined to the leaf surface.

The Flower.—The study of the following type flowers as illustrating the parts of a flower: Candytuft or any cruciferæ; pansy, silver weed or any rosaceæ; sweet pea, petunia and the dandelion, or any other compositæ. The function of the flower as a whole. The functions of the parts of the flower. Comparison of floral parts and foliage leaves. Fertilization: The development of the fertilized ovule into a ripened seed. The ecology of flowers: Pollination; inflorescence in relation to pollination, special reference given to *raceme, corymb, umbel, spike and head.* Bergen, Chapters 16 and 17.

Fruits and Seeds.—The study of the following typical fruits leading to a classification: Hawthorn or apple, rose, plum or cherry; tomato or grape; currant or gooseberry; cucumber, squash or pumpkin; raspberry or strawberry; cone or pineapple; pea, bean or caragana; larkspur, columbine or marsh-marigold; anemone or dandelion; wheat, corn or oats; stink weed or shepherd's purse; mustard or radish; plantain or pansy. Bergen, Chapters 18 and 19.

Ecology of Fruits.—Protection and dispersal of fruits and seeds (these to be illustrated by Manitoba examples). Bergen, Chapter 20.

The Struggle for Existence and the Survival of the Fittest.—Bergen, Chapter 21.

PART II.

English

1. *Rhetoric and Composition—*

(a) The investigation of rhetorical principles along the lines laid down in Barrett Wendell's "English Composition."

(b) An essay on one of several themes set by the examiners. In order to pass in this subject, legible writing, correct spelling and punctuation, and proper construction of sentences are indispensable. The candidate should also give attention to the structure of the whole essay, the effective ordering of the thought, and the accurate employment of a good English vocabulary. About two pages of foolscap is suggested as the proper length for the essay; but quality, not quantity, will be mainly regarded.

The marks shall be divided as follows: 25% for principles of rhetoric, and 75% for the essay.

2. *Literature.*—Intelligent comprehension of the prescribed texts, and familiarity with their content will be required, and the candidate will be expected to have memorized some of the finest passages.

1912. SHAKESPEARE: Merchant of Venice.
SCOTT: Waverley.
COLERIDGE: Ancient Mariner.

1913. SHAKESPEARE: Julius Cæsar.
DICKENS: David Copperfield.
TENNYSON: Ode to Memory; The Dying Swan; The Lotos-Eaters; Ulysses; "You Ask Me Why;" "Of Old Sat Freedom;" "Love Thou Thy Land;" "Tears, Idle Tears" and the six interlude songs from The Princess; The Brook; Ode on the Death of the Duke of Wellington; Charge of the Light Brigade.

The English papers will be examined for spelling, and the examiners will include in their report a statement of the standing of each candidate in this regard. Students found deficient in this respect will be required to pass an examination in dictation before proceeding with their course.

FRENCH EQUIVALENTS.

Au lieu de l'Anglais ci-dessus le Français pour les candidats de langue française sera comme suit:

1. *Rhétorique et Composition*—

(a) Vérest: Manuel de Littérature.
Principes généraux, style, versification, pp. 1-12, 53-171; débit, pp. 188-205; genres intermédiaires en poésie, pp. 499-517.

(b) Un essai d' à peu près deux pages, grand format, sur un des sujets indiqués par les examinateurs. L' écriture devra être lisible, l'orthographe et la ponctuation correctes, et la construction des phrases soignée. Il faudra aussi faire attention au plan général de la composition, à l'ordonnance des idées, et à la propriété des termes. Sa valeur dépendra plutôt de la qualité que de la quantité.

On allouera 25% pour les principes de littérature et 75% pour l'essai.

2. *Littérature*—

1912. Procés: Modèles Français, Tomes II. et III.

Extraits en prose: X. de Maistre (II. pp. 327-341), A. Daudet (II. pp. 604-609, et III. pp. 679-683).

Extraits poétiques: Brizeux (II. pp. 503-510, et III. 533-542), Delavigne (II. pp. 435-449, et III. pp. 430-434), Coppée (II. pp. 609-621, et III. pp. 688-692), Corneille (III. pp. 17-29).

Auteurs: Racine: Les Plaideurs.
Veuillot: Rome et Lorette.

1913. Procès: Modèles Français, Tomes II. et III. comme en 1912.

Auteurs: Veuillot: Corbin et d'Aubecourt.
Racine: Les Plaideurs.

Mathematics

1. *Algebra*—Hall and Knight's Elementary Algebra, 8th edition, Chapters I-XXVIII., XXX. to par. 235, XXXII.-XXXV., including graphs for equations of first and second degrees.

2. *Geometry*—Baker's Theoretical Geometry for Schools to page 209.

In demonstrating a proposition whose proof is given in the prescribed text no use shall be made of a proposition which in the said text follows the required proposition.

In the demonstration of theorems the starting point shall be the definitions given in the prescribed texts.

Latin

Translation into English of passages from prescribed texts.

Translation at sight (with the aid of vocabularies) of passages from some easy prose author. Candidates will be expected to have supplemented the reading of the prescribed texts by additional practice in the translation of Latin.

Grammatical questions on the passages from prescribed texts shall be set, and such other questions as arise naturally from the context.

Translation into Latin of sentences based upon the prescribed prose text.

The following are the prescribed texts:—

Caesar: Bellum Gallicum, Book IV., Chapters 20-38, and Book V., Chapters 1-23.

Vergil: Æneid, Book I., ll. 1-510.

Two papers as follows:—

(1) Vergil and Cæsar.

(2) Latin Grammar, Composition and Sight Translation. (25% of the marks given on this paper will be given for Sight Translation).

[N.B.—Robertson and Carruthers' "Matriculation Latin" (1909 Edition) contains all the work prescribed for Part II. in Authors and Prose Composition.]

Greek

Translation into English of passages from prescribed texts.

Translation at sight (with the aid of vocabularies) of passages from some easy prose author. Candidates will be expected to have supplemented the reading of the prescribed texts by additional practice in the translation of Greek.

Grammatical questions on the passages from prescribed texts shall be set, and such other questions as arise naturally from the context.

Translation into Greek of sentences based upon the prescribed prose text.

The following is the prescribed text:—

Xenophon, Anabasis I., Chapters 1-8, and Anabasis II. (omitting Chapters 3 and 4).

Two papers as follows:—

(1) Xenophon.

(2) Greek Grammar (Burgess and Bonner, "Elementary Greek," completed), Composition and Sight Translation. (25% of the marks given on this paper will be given for Sight Translation)

French

1. (*a*) *Grammar.*—High School French Grammar, Part II., pages 129 to 233, inclusive, with the associated exercises.

(*b*) *Composition.*—(1) Translation into French of short sentences as a test of the candidate's knowledge of grammatical forms and structure, and the formation in French of sentences of similar character; and (2) translation of easy passages from English into French.

(*c*) *Sight Translation.*—Translation of unspecified passages from easy French authors. [For practice in Sight Translation the selections in Part III. of the High School French Grammar and Reader are recommended.]

2. *Authors.*—An examination on the following texts:

1911. Enault: Le Chien du Capitaine. (Heath & Co.)
Labiche: Le Voyage de Monsieur Perrichon. (Ginn & Co.)
1912. Daudet: La Belle Nivernaise. (Copp, Clark & Co).
Labiche: La Grammaire. (Heath & Co.)

ENGLISH EQUIVALENTS.

Au lieu du Français ci-dessus l'Anglais pour les candidats de langue française sera comme suit:

1. (*a*) *Grammaire*—Dulac et Bonnet, Grammaire Anglaise, pages 165 à 284.

(*b*) *Composition*—(1) Traduire du français en anglais quelques phrases assez courtes, qui montrent que le candidat sait appliquer les règles de la grammaire; construire quelques phrases anglaises du même genre. (2) Traduire en anglais quelques passages faciles de prose française.

2. *Auteurs*—Version tirée d'auteurs anglais faciles à comprendre et non connus d'avance. Examen sur les auteurs prescrits:

Dickens—A Christmas Carol.

Irving—Sketch Book. (Hachette).

German

1. (*a*) *Grammar.*—High School German Grammar (Van der Smissen and Fraser, 1909 Edition), pages 1-248.

(*b*) *Composition.*—(1) Translation into German of short English sentences as a test of the candidate's knowledge of grammatical forms and structure, and the formation in

German of sentences of similar character; and (2) translation of easy passages from English into German.

(*c*) *Sight Translation.*—Translation of unspecified passages from easy German authors. [For practice in sight translation, "Herein," by P. S. Allen (Holt & Co.) is recommended.]

2. *Authors.*—An examination on the following texts:—

1911. GERSTÄCKER: Germelshausen (Holt & Co.).
MULLER: Im Wartesalon erster Klasse; and
POHL: Die Schulreiterin (found in Manley & Allen's "Four German Comedies," published by Ginn & Co.).

1912. VON MOSER: Der Schimmel (Holt & Co.)
BLUTHGEN: Das Peterle von Nürnberg (Heath & Co.)
ALLEN: Herein, pp. 121-128 (Holt & Co.)

Icelandic

1. (*a*) *Grammar.*

(*b*) *Composition*—(1) Translation into Icelandic of idiomatic expressions and phrases in English. Construction of sentences in Icelandic as a test of knowledge of grammatical forms and structure; (2) translation of passages from Icelandic into English. Essays.

(*c*) *Sight Translation.*—Translation of unspecified passages from easy Icelandic Authors.

2. (*a*) History of Icelandic Civilization.

(*b*) *Authors.*—An examination on the following texts:

1911.—BJARNI THORARENSEN, Fljótshlíð, Herhvöt, Herganga, Ísland, Sigrúnarljóð, Sæmundur Hólm, Eyjafjallajökull, Þórarinn Öfjörð; GÍSLI BRYNJÓLFSSON, Hvöt, Veturinn, Brúðkaupsvísa, Freyjukettirnir, Oddur Hjaltalín; BJÖRN GUNNLAUGSSON, Úr Njólu, Jón Bjarnason; SVEINBJÖRN EGILSSON, Sumarkveðja, Kvæði, Skilnaðarvísur, Úr Ilionskviðu; SIGURÐUR BREIÐFJÖRÐ, Úr rímum; BALDVIN EINARSSON, Ármann á alþingi; TÓMAS SÆMUNDSSON, Fjölnir; JÓNAS HALLGRÍMSSON, Ísland, Vísur Íslendinga, Gunnarshólmi, Kveðja Íslendinga, Skjaldbreiður, Bjarni Thórarensen, síra Þorsteinn Helgason, Ásta, Óhræsið, Grasaferð, Úr gamanbréfi; KON-

RÁÐ GÍSLASON, Sagan af Árna-Birni og mér, Ágrip af ræðu, Um nám forntungu vorrar; JÓN SIGURÐSSON, Úr ritgjörðum; PÁLL MELSTED, Benjamín Franklin og George Washington.

1912.—JÓN THORODDSEN, Island, Til Islendinga, Dálitil ferðasaga; GRÍMUR THOMSEN, Jólnasumbl, Á Glæsivöllum, Skúli fógeti, Skúlaskeið, Kirkjugarðsvísur, Glámur, Sköfnungur; ÁRNASON og GRÍMSSON, Álfadans, Gilitrutt, Djákninn á Myrká, Frá Sæmundi fróða, Seint fyllist sálin prestanna, Jón frá Geitaskarði, Sagan af Hlini konungssyni; BENEDICT GRÖNDAL, Æskan, Promethevs, Hret, Heim, Hugsun, Hugrún, Úr Heljarslóðarorustu; PÁLL ÓLAFSSON, Litli fossinn, Sumarkveðja, Systurminning; GUÐBR. VIGFÚSSON, Tímatal, Úr Ferðasögu; GÍSLI BRYNJÓLFSSON, Úr Faraldi Grátur Jakobs yfir Rakel, Endurminningar, Vísur; STIENGRÍMUR THORSTEINSSON, Gilsbakkaljóð, Haustkvöld, Kveðja, Vorhvöt, etc.; MATTH. JOCHUMSSON, Lofsöngur, Þingvallaminni, Guðbrandur Hólabiskup, Eggert Ólafsson, Nýársósk, Sorg.

Swedish

1. (a) *Grammar*—Beckman's Advanced Swedish Grammar.

(b) *Composition*—Translation from Swedish into English and from English into Swedish of idiomatic expressions. Writing of short essays.

2. *Authors*—Translation of easy passages from modern authors. Examination on the following texts:

1911. FRANZÉN, Människans anlete, Afskedssång af Beväringsmän; A. M. LENGREN, Pojkarna, Den glada festen, Porträtterna, Fröken Juliana; C. M. BELLMAN, Haga, Fiskarfänget; KARL DAVID AF WIRSEN, Sikars Brunn, Källan, Seltagande, Pelarskogen i San Paolo, Sverige; E. SEHLSTEDT, Snösparven, Våren kommer, Visa; Z. TOPELIUS, Min moder, Vintergatan; P. VIKNER, Min moders testamente; B E. MALMSTRÖM, Ur minnestal öfver E. G. Geijer, Angelika, Hvi suckar det så tungt uti

skogen, Ödmjuken er; C. A. NICANDER, Vågen, Mitt lif, min sång, min död.

1912. KELLGREN, Den nya skapelsen; A. FRYXELL, Slaget vid Lytzen; E. G. GEIJER, Manhem, Ur minnen; J. O. WALLIN, Blick till graven, Tal till svenska bibelsällskapet 1886, Höst betragtelse; SJÖBERG, (Vitalis) Försakelse, Ensligens sång, Den bäste vännen, Frid, Stagnelius; ATTERBOM, Ur lycksalighetens ö; DALGREN Vårsång; GRAFSTRÖM, Norrland, Sensetivan, Harpan; VENNERBERG, Ur gluntarna, En solnedgång; V. RYDBERG, Dexippos, Ur romerska kejsare i marmor, (Tiberius).

Elementary Science—Physics.

High School Physical Science, Part I. (Revised edition.)

MATRICULATION FOR MEDICINE

Subjects of Examination

All candidates at the Matriculation Examination for Medicine must take the following fixed subjects:

English.
History.
Mathematics (Arithmetic, Algebra and Geometry).
Latin.
Elementary Science (Botany and Physics).

Division of Examination

The subjects enumerated above may be taken in one examination at one time, or in two parts, at successive examinations, as outlined for Arts Matriculation, or by subjects or groups of subjects as in the case of Arts Matriculation. (See pages 28 to 31.)

Scope of Work and Standing Required

In the case of each of the subjects of this examination the work prescribed is the same as that for the corresponding subject of Parts I. and II. of the Arts Matriculation Examination, and the same standard is required to entitle the candidate to pass.

Each paper of the examination considered as separate subject in determining failures, except in the cases of English History, Canadian History, Algebra and Geometry of Part I. Matriculation, where the same special provision applies as in the case of Arts Matriculation. (See pages 29 and 30.)

Accuracy in Spelling is required. Students found deficient in this respect will be required to pass an examination in dictation before they will be allowed to proceed with their course.

Supplemental Examinations

The same regulations respecting Supplemental Examinations prevail as in the case of Arts Matriculation, *except that only fully matriculated students shall be allowed to present them-*

selves for any higher examination. Candidates, however, who present teachers' certificates not covering Latin may as conditioned students proceed with their course with the view of subsequently obtaining full Matriculation standing. Such condition must be removed before the commencement of the Second Year.

General Regulations

Each paper of the Matriculation Examination for Medicine, except those in English History, Canadian History, Algebra and Geometry of Part I. Matriculation, is of three hours' duration. The time allowed for the papers in the above-mentioned subjects is one and a half hours.

The Matriculation Examination for Medicine shall be held twice a year, viz.: in June, beginning on the second Tuesday, and in September beginning on the third Thursday. There shall be no Supplemental Examination granted except at these dates.

Equivalent Examinations

In place of the above Matriculation Examination the University has agreed to accept the Matriculation of the College of Physicians and Surgeons of the Provinces of Quebec and Ontario; the Medical Students' registration certificate of the Medical Council of Great Britain and Ireland; the non-professional Second-Class Teachers' Certificates of Manitoba, Ontario, Saskatchewan and Alberta; also the Ontario High School Intermediate and Junior Leaving Examinations; except that the Latin and the compulsory Elementary Science of the Matriculation Examination of the University must be taken by those who have not taken these subjects in the said High School or Teachers' Examination.

Holders of certificates of educational value from other institutions than those mentioned will receive such standing as the Council of the University may see fit to grant.

A Bachelor of Arts of any University in His Majesty's Dominions is admitted to the study of medicine without further examination.

MATRICULATION FOR ENGINEERING

Subjects of Examination

All candidates at the Matriculation Examination for Engineering must take the following fixed subjects:

- English.
- History.
- Mathematics (Arithmetic, Algebra, Geometry and Trigonometry).
- Elementary Science (Botany and Physics).

and one of the following optional subjects:

- Latin.
- Greek.
- French.
- German.

Division of Examination

The subjects enumerated above may be taken in one examination at one time, or in two parts, at successive examinations, as outlined for Arts Matriculation, or by subjects or group of subjects, as in the case of Arts Matriculation. (See pages 28 to 31.)

Scope of Work and Standing Required

In the case of each of the subjects of this examination, except the Mathematics, the work prescribed is the same as that for the corresponding subject of Parts I. and II. of the Arts Matriculation, and the same standard is required to entitle the candidate to pass. The work prescribed in Mathematics is as follows:

MATHEMATICS—

(a) *Arithmetic*—As in Arts (see page 32), save that special attention should be given to Mensuration.

(b) *Algebra*—As in Arts (see pages 33 and 37), with the addition of Indices, Surds, Permutations and Combinations, Binomial Theorem, Logarithms, Theory of

Quadratic Equations (as in Hall & Knight's Elementary Algebra, omitting Chapters 40 to 43, inclusive).

(c) *Geometry*—As in Arts (see pages 33 and 37), with the addition of Book V. and "Additional Propositions.

(d) *Trigonometry*—Measurement of Angles, Trigonometric Ratios, Functions of One Angle, Two Angles and Multiple Angles, etc. (as in Hall & Knight's Trigonometry, Chapters 1 to 18, inclusive).

NOTE.—In Part I. Matriculation for Engineering, the papers provided in Arithmetic, Algebra and Geometry are the same as those provided for Part I. Matriculation for Arts or Medicine. In Part II. Matriculation for Engineering, separate papers in Algebra and Geometry are provided to replace those set for Matriculation for Arts or Medicine, and candidates are required as well to write upon a paper in Trigonometry upon the work outlined above.

Each paper of the examination is considered as a separate subject in determining failures, except in the cases of English History, Canadian History, Algebra and Geometry of Part I. Matriculation, where the same special provision applies as in the case of Arts Matriculation. (See pages 29 and 30.)

Accuracy in Spelling is required. Students found deficient in this respect will be required to pass an examination in dictation before they will be allowed to proceed with their course.

Supplemental Examinations

The same regulations respecting Supplemental Examinations prevail as in the case of Arts Matriculation (see pages 29 to 31). All matriculation conditions must be removed before the commencement of the Second Year.

General Regulations

Each paper of the Matriculation for Engineering, except those in English History, Canadian History, Algebra and Geometry of Part I. Matriculation is of three hours' duration. The time allowed for the papers in the above-mentioned subjects is one and a half hours.

MATRICULATION FOR LAW

In order to enter upon the course of study for the degree in Law, a student must pass a Matriculation examination, the subjects of which are the same as those required for Matriculation for Arts. (See pages 31 to 42.) The same standards and regulations prevail as in Arts Matriculation. (See pages 28 to 31.)

Entrance requirements for other courses offered by the University of Manitoba are outlined below as follows: For students of the course in Pharmacy on page 208; for students taking the course in Commercial Education on page 210; for students of the advanced course in Agriculture on page 202.

Curricula in Arts

CURRICULA IN ARTS

The University of Manitoba confers two degrees in Arts, viz., Bachelor of Arts (B.A.) and Master of Arts (M.A.). The following are the requisites for proceeding in course to admission to these degrees:

I.—BACHELOR OF ARTS

Matriculation.

The requirements for Matriculation for Arts are set forth in detail on pages 28 to 42.

Undergraduate Course in Arts.

After having matriculated, the student of Arts is required to pass four examinations before being admitted to the degree of Bachelor of Arts, viz., the First, the Second, the Third and the Fourth Year Examinations.

FIRST YEAR.

Note 1.—All English-speaking students at the examination of the First Year shall take the following fixed subjects: English, Mathematics, Latin, History, and any two of the following options: Greek, French, German, Icelandic, Swedish, Physics.

Note 2.—L'examen de la première année pour les candidats de langue française comprend le Français, les Mathématiques, le Latin, l'Histoire, et deux quelconques des sujets suivants: le Grec, l'Anglais, l'Allemand, l'Islandais, le Suédois, la Physique.

Note 3.—Students intending to take any of the divisions of the Natural and Physical Science Course in their Third Year (see pages 72 to 74) are strongly recommended to choose Physics as one of their options in the First Year.

For students of the First Year, classes are provided by the University only in the subject of Physics. Instruction in all other subjects must be obtained at one of the affiliated Colleges or at some other educational institution.

1. English.
    (a) Composition and Prose Literature. (See Course 1A, page 82.)
    (b) History of Literature and Verse. (See Course 1B, page 82.)

2. Francais (pour les candidats de langue française).
    - (a) Composition et Littérature en Prose. (Voir Cours 1c, page 89.)
    - (b) Modèles Francais (Procès) et Poesie Dramatique. (Voir Cours 1d, page 89.)
3. Mathematics.
    - (a) Geometry. (See Course 1, page 104.)
    - (b) Algebra. (See Course 2, page 104.)
    - (c) Trigonometry. (See Course 3, page 104.)
4. Latin.
    - (a) Authors. (See Course 1a, page 78.)
    - (b) Grammar, Composition and Sight Translation. (See Course 1b, pages 78 and 79.)
5. History. (See Course 1, page 103.)
6. Histoire (pour les candidats de langue française). (Voir Cours 2, page 103.)
7. Greek.
    - (a) Authors. (See Course 1a, page 76.)
    - (b) Grammar, Composition and Sight Translation. Course 1b, page 76.)
8. French.
    - (a) Authors. (See Course 1a, page 89.)
    - (b) Grammar, Composition, Dictation and Sight Translation. (See Course 1b, page 89.)
9. Anglais (pour les candidats de langue française).
    - (a) Auteurs. (Voir Cours 3, page 84.)
    - (b) Grammaire, Composition, Dictée et Traduction à première vue. (Voir Cours 4, page 84.)
10. German.
    - (a) Authors. (See Course 1a, page 94.)
    - (b) Grammar, Composition, Dictation and Sight Translation. (See Course 1b, page 94.)
11. Icelandic
    - (a) Authors. (See Course 1c, page 98.)
    - (b) Grammar and Composition (See Courses 1a and 1b, page 97.)
12. Swedish.
    - (a) Authors. (See Course 1b, page 98.)
    - (b) Grammar and Composition. (See Course 1a, page 98.)
13. Physics. (See Course 1, page 126.)

SECOND YEAR.

Note 1.—All English-speaking students at the examination of the Second Year shall take the following fixed subjects: English. Philosophy, Latin, History, and any of two of the following options: Greek, French, German, Icelandic, Swedish, Mathematics, Chemistry, Biology.

Note 2.—L'examen de la deuxième année pour les candidats de langue française comprend le Français, la Logique, le Latin, l'Histoire, et deux quelconques des sujets suivants: le Grec, l'Anglais, l'Allemand, l'Islandais, le Suédois, les Mathématiques, et la Chimie.

Note 3.—Students intending to take the Course in Mathematics (see page 71), or one of the divisions of the Course in Natural and Physical Science (see pages 72 to 74) are recommended to choose as their options two of the following: Mathematics*, Chemistry†, Biology†. Before making their selection they are advised to consult the Chairman of the University Faculty.

For students of the Second Year, classes are provided by the University only in the subjects of Mathematics, Chemistry and Biology. Instruction in all other subjects must be obtained at one of the affiliated Colleges or at some other educational institution.

1. English.
    (a) Composition and Prose Literature. (See Course 2A, page 82.)
    (b) History of Literature and Verse. (See Course 2B, page 83.)
2. Français (pour les candidats de langue française).
    (a) Composition. Rhétorique, Littérature en Prose. (Voir Cours 2B, page 90.)
    (b) Modèles Français (Procès) et Poésie Dramatique. (Voir Cours 2C, page 90.)
3. Philosophy.
    (a) Logic. (See Course 1, page 99.)
    (b) Introduction to Philosophy. (See Course 2, page 99.)
4. Logique (pour les candidats de langue française). (Voir Cours 1, page 101.)
5. Latin.
    (a) Authors. (See Course 2, page 79.)
    (b) Grammar, Composition and Sight Translation.

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*Mathematics is a prerequisite for Divisions A and B of the Course in Natural and Physical Science.

†Chemistry and Biology are prerequisites for Division D of the Course in Natural and Physical Science.

6. History. (See Course 3, page 103.)

7. Histoire (pour les candidats de langue française. (Voir Cours 4, page 103.)

8. Greek.
    - (a) Authors. (See Course 2A, page 76.)
    - (b) Grammar, Composition and Sight Translation. (See Course 2B, page 76.)

9. French.
    - (a) Authors. (See Course 2A, page 89.)
    - (b) Grammar, Composition, Dictation and Sight Translation.

10. Anglais (pour les candidats de langue française).
    - (a) Auteurs. (Voir Cours 5, page 84.)
    - (b) Grammaire et Composition. (Voir Cours 6, page 84.)

11. German.
    - (a) Authors. (See Course 2, page 94.)
    - (b) Grammar, Composition, Dictation and Sight Translation.

12. Icelandic.
    - (a) Authors. (See Course 2, page 98.)
    - (b) Grammar, Composition, Sight Translation and Essays.

13. Swedish.
    - (a) Authors. (See Course 2B, page 98.)
    - (b) Grammar, Composition, Sight Translation and Essays. (See Course 2A, page 98.)

14. Mathematics.
    - (a) Algebra. (See Course 10, page 122.)
    - (b) Trigonometry. (See Course 11, page 123.)
    - (c) Solid Geometry. (See Course 12, page 123.)
    - (d) Analytical Geometry. (See Course 13, page 123.)

(Note.—Two papers will be set—one on Algebra and Trigonometry and one on Geometry.)

15. Chemistry. (See Course 1, page 138.)

16. Biology.
    - (a) Botany. (See Course 1, page 130.)
    - (b) Zoology. (See Course 1, page 150.)

A candidate, in order to pass in any paper at the examination of the First or the Second Year, must have 34 per cent. of the marks in that paper, and to pass the whole examination and obtain Third Class standing he must have 40 per cent. of the aggregate of the marks assigned. If he fail to obtain 40 per cent. he shall be required to take the whole examination again. To obtain Second Class standing he must have 50 per cent. of the aggregate of the marks assigned. To obtain First Class standing, grade B, he must have 67 per cent. of the aggregate of the marks assigned. To obtain First Class standing, grade A, he must have 80 per cent. of the aggregate of the marks assigned.

The standing of a candidate on an individual subject is determined on the same basis as his standing on the whole examination.

Each paper of the examination of the First or Second Year is regarded as a separate subject in considering failures.

Candidates who have failed in not more than two papers in the examination of the First Year or the Second Year may, as conditioned students, proceed with their course, with the view of subsequently obtaining the full standing of the year; but all conditions from the examination of the First Year must be removed before the commencement of the Third Year, and all conditions from the examination of the Second Year must be removed before the commencement of the Fourth Year. (This regulation should be read in conjunction with the regulations relating to Supplemental Examinations. See page 219).

A student passing the examination of the First Year with First Class grade "B" or higher standing may obtain from the Department of Education for Manitoba a First Class non-professional Teacher's Certificate. A student passing with Second Class standing may obtain a Second Class non-professional certificate. In each case the applicant for a certificate must satisfy the requirements of the Department in Bookkeeping, Agriculture, Music, Drawing and Botany.

No student shall be allowed to present himself for examination in Physics, in Chemistry, in Mathematics or in Biology of the First or Second Year who does not present from the University Faculty, or from an affiliated college where such work is done in the college, a certificate of having attended 75 per cent. of the lectures delivered in said subject. This regulation, however, shall not affect any non-collegiate candidate for examination.

THIRD AND FOURTH YEARS

After completing the First and Second Years, a student may proceed to the degree of Bachelor of Arts by pursuing any one of the following Courses, viz.:

(a) A General Course.

(b) A Course in Classics.

(c) A Course in Modern Languages.

(d) A Course in Philosophy.

(e) A Course in Political Economy and History.

(f) A Course in English and History.

(g) A Course in Political Economy and English.

(h) A Course in History and French and German.

(i) A Course in Political Economy and French and German.

(j) A Course in Mathematics.

(k) A Course in Natural and Physical Science. (Any one of four divisions.)

GENERAL COURSE

Third Year

Note 1.—All English-speaking students shall take the following subjects: English, History or Political Economy, Philosophy; one of the languages: Latin, Greek, French, German, Hebrew; one of the following: Latin (if not already chosen), Greek (if not already chosen), French (if not already chosen), German (if not already chosen), Hebrew (if not already chosen), Scripture, Mathematics (if not already taken in the Second Year), Physics (if not already taken in the First Year), Geology.

Note 2.—Les candidats de langue Française substitueront le Français à l'Anglais dans les sujets fixes et l'Anglais au Français dans les sujets facultatifs.

Note 3.—This course shall apply both to collegiate and non-collegiate students.

1. English. (See Courses 10 and 11, page 86, or Courses 3 and 4, page 109.)

2. Français (pour les candidats de langue française).

3. Philosophy. (See Courses 3 and 4, page 99.)

4. Philosophie (pour les candidats de langue française). (Voir Cours 2 et 3, page 101.)

5. Political Economy. (See Course 1, page 103, or Course 3, page 119).

6. Economie Politique (pour les candidats de langue française). (Voir Cours 3, page 104.)

7. History. (See Course 3A, page 115.)

8. Histoire (pour les candidats de langue française).

9. Latin.
    (a) Authors. (See Course 4, page 79.)
    (b) Sight Translation.

10. Greek.
    (a) Authors. (See Course 4, page 77.)
    (b) Sight Translation.

11. French.
    (a) Composition.
    (b) Authors. (See Courses 3 and 4, page 91.)

12. Anglais (pour les candidats de langue française).
    (a) Composition.
    (b) Auteurs. (Voir Cours 7. page 85.)

13. German.
    (a) Composition.
    (b) Authors. (See Course 3. page 94.)

14. Hebrew. (See Course 1. page 81.)

15. Scripture. (See Courses 4 and 6. page 81.)

16. Mathematics.
    (a) Algebra. (See Course 10. page 122.)
    (b) Trigonometry. (See Course 11. page 123.)
    (c) Solid Geometry. (See Course 12. page 123.)
    (d) Analytical Geometry. (See Course 13. page 123.)

17. Physics. (See Course 1. page 126.)

18. Geology. (See Course 1. page 133.)

Fourth Year

Note 1.—All English-speaking students shall take the following subjects: English, Political Economy or History, Philosophy; one of the languages: Latin, Greek, French, German, Hebrew; one of the following: Latin (if not already chosen), Greek (if not already chosen), Hebrew (if not already chosen), Scripture (if not already taken in the Third Year), Mathematics (if not already taken in the Second Year or the Third Year), Physics (if not already taken in the First Year or the Third Year), Astronomy, Geology (if not already taken in the Third Year).

Note 2.—Les candidats de langue française substitueront le Français à l'Anglais dans les sujets fixes et l'Anglais au Français dans les sujets facultatifs.

Note 3.—This course shall apply both to collegiate and non-collegiate students.

1. English. (See Course 13. page 87. and Course 15. page 88. or Course 2. page 110 and Course 4. page 111.)

2. Français (pour le candidats de langue française).

3. Philosophy. (See Courses 3 and 4. page 99.)

4. Philosophie (pour les candidats de langue française). (Voir Cours 2 et 3. page 101.)

5. Political Economy. (See Course 2, page 103, or Course 4, page 120.)

6. Economie Politique (pour les candidats de langue française). (Voir Cours 3, page 104.)

7. History. (See Course 3B, page 115.)

8. Histoire (pour les candidats de langue française).

9. Latin.
    (a) Authors. (See Course 4, page 79.)
    (b) Sight Translation.

10. Greek.
    (a) Authors. (See Course 4, page 77.)
    (b) Sight Translation.

11. French.
    (a) Composition.
    (b) Authors. (See Courses 3 and 5, page 91.)

12. Anglais (pour les candidats de langue française).
    (a) Composition.
    (b) Auteurs. (Voir Cours 7, page 85.)

13. German.
    (a) Composition.
    (b) Authors. (See Course 4, page 95.)

14. Hebrew. (See Course 2, page 81.)

15. Scripture. (See Courses 4 and 6, page 81.)

16. Mathematics.
    (a) Algebra. (See Course 10, page 122.)
    (b) Trigonometry. (See Course 11, page 123.)
    (c) Solid Geometry. (See Course 12, page 123.)
    (d) Analytical Geometry. (See Course 13, page 123.)

17. Physics. (See Course 1, page 126.)

18. Astronomy. (See Course 28, page 125.)

19. Geology. (See Course 1, page 133.)

COURSE IN CLASSICS

Third Year

1. Greek History. (See Course 10, page 78.)
2. Roman History. (See Course 11, page 81.)
3. Epic Poetry. (See Course 5, page 77, or Course 5, page 79.)
4. Latin Prose.
5. Greek Prose.
6. Latin and Greek Sight Translation.

Also for the Examination of 1912 and every alternate year thereafter:

7. Greek Tragedy. (See Course 6, page 77.)
8. Latin Lyric Poetry. (See Course 6, page 79.)
9. Roman Antiquities.

Or for the Examination of 1913 and every alternate year thereafter:

7. Greek and Roman Comedy. (See Course 7, page 77, or Course 7, page 80.)
8. Roman Satire and Epigram. (See Course 8, page 80.)
9. Greek Antiquities.

Fourth Year

1. Greek History. (See Course 11, page 78.)
2. Roman History. (See Course 12, page 81.)
3. Literary Criticism. (See Course 8, page 77, or Course 9, page 80.)

4. Greek Philosophy. (See Course 9, page 78.)

5. Roman Philosophy. (See Course 10, page 80.)

6. Latin Prose.

7. Greek Prose.

8. Latin and Greek Sight Translation.

Also for the Examination of 1912 and every alternate year thereafter:

9. Greek Tragedy. (See Course 6, page 77.)

10. Latin Lyric Poetry. (See Course 6, page 79.)

11. Roman Antiquities.

Or for the Examination of 1913 and every alternate year thereafter:

9. Greek and Roman Comedy. (See Course 7, page 77, or Course 7, page 80.)

10. Roman Satire and Epigram. (See Course 8, page 80.)

11. Greek Antiquities.

COURSE IN MODERN LANGUAGES

Third Year

I. ENGLISH.

1. Chaucer. (See Course 8, page 85, or Course 1, page 108.)

2. The Ballad and Spenser. (See Course 9, page 85, or Course 2, page 108.)

3. Shakespeare. (See Course 10, page 86, or Course 3, page 109.)

4. Milton and Gray. (See Course 11, page 86, or Course 4, page 109.)

II. FRENCH.

1. Literary and Political History. (See Course 6, page 91.)
2. Seventeenth Century Drama. (See Course 8a, page 92.)
3. Seventeenth Century Prose and Poetry (exclusive of Drama.) (See Course 9a, page 93.)
4. Composition, Sight Translation and Oral.

III. GERMAN.

1. Literary and Political History. (See Course 5, page 95.)
2. Klopstock and Lessing. (See Course 6, page 95.)
3. Goethe and Contemporary Writers. (See Course 7, page 96.)
4. Composition, Sight Translation and Oral.

Fourth Year

I. ENGLISH.

1. Wordsworth and Coleridge. (See Course 12, page 86, or Course 1, page 110.)
2. Shelley and Tennyson. (See Course 13, page 87, or Course 2, page 110.)
3. Browning. (See Course 14, page 88, or Course 3, page 111.)
4. Nineteenth Century Prose. (See Course 15, page 88, or Course 4, page 111.)

II. FRENCH.

1. Literary and Political History and Old French. (See Course 7, page 92.)
2. Seventeenth Century Drama. (See Course 8b, page 92.)
3. Seventeenth Century Prose and Poetry (exclusive of Drama. (See Course 9b, page 93.)
4. Composition, Sight Translation and Oral.

III. GERMAN.

1. Literary and Political History and Middle High German. (See Course 8, page 96.)
2. Klopstock and Lessing. (See Course 9, page 96.)
3. Herder, Goethe and Contemporary Writers. (See Course 10, page 97.)
4. Composition, Sight Translation and Oral.

A student in order to pass the examination of the Course in Modern Languages must obtain 40 per cent. of the aggregate marks given for all the papers of the course. Failing to obtain this percentage the student shall be required to present himself again for examination on all the subjects of the year, at a subsequent regular examination.

A student obtaining an average of 40 per cent. on the whole course, but failing to obtain 40 per cent. of the marks given for any one of the three languages, shall be required to write on all the papers of that language again; but a student obtaining more than 40 per cent. on the aggregate of the papers of any language and not obtaining 34 per cent. of the marks on any paper shall be required to write on such paper again.

The papers on Composition, etc., in both French and German, shall receive 65 marks for Grammar and Composition, 20 marks for Conversation, and 15 marks for Sight Translation.

COURSE IN PHILOSOPHY (ENGLISH)

Third Year

1. History of Philosophy, Ancient and Mediaeval. (See Course 7, page 99.)
2. Metaphysics—Locke and the transition through Berkeley to Hume. (See Course 9, page 99.)

Also for 1912 and every alternate year thereafter:

3. Logic. (See Course 12, page 100.)
4. Psychology. (See Course 13, page 100.)

5. Metaphysics. (See Course 10, page 100.)
6. Political Science. (See Course 17, page 100.)

Or for 1913 and every alternate year thereafter:

3. Ethics. (See Course 14, page 100.)
4. Political Science. (See Course 16, page 100.)

Fourth Year

1. History of Philosophy, Modern. (See Course 8, page 99.)
2. Metaphysics. (See Course 11, page 100.)
3. Philosophy of Religion. (See Course 15, page 100.)

Also for 1912 and every alternate year thereafter:

4. Logic. (See Course 12, page 10C.)
5. Psychology. (See Course 13, page 100.)
6. Metaphysics. (See Course 10, page 100.)
7. Political Science. (See Course 17, page 100.)

Or for 1913 and every alternate year thereafter:

4. Ethics. (See Course 14, page 100.)
5. Political Science. (See Course 16, page 100.)

COURSE IN PHILOSOPHY (LATIN)

Third Year

(A) For the Examination of 1912 and every alternate year thereafter:

1. Logica. (See Course 5, page 101.)
2. Metaphysica. (See Course 6, page 101.)

3. History of Philosophy. (See Course 7, page 102.)

   Ou Histoire de la Philosophie (pour les candidats de langue française.) (Voir Cours 7, page 102.)

4. Physics. (See Course 11, page 102.)

   Ou Physique (pour les candidats de langue française.) (Voir Cours 11, page 102.)

(B) For the Examination of 1913 and every alternate year thereafter:

1. Philosophia Moralis. (See Course 4, page 101.)

2. History of Philosophy. (See Course 8, page 102.)

   Ou Histoire de la Philosophie (pour les candidats de langue française.) (Voir Cours 8, page 102.)

3. Political Economy. (See Course 9, page 102.)

   Ou Economie Politique (pour les candidats de langue française.) (Voir Cours 9, page 102.)

4. Chemistry. (See Course 10, page 102.)

   Ou Chimie (pour les candidats de langue française.) (Voir Cours 10, page 102.)

Fourth Year

(A) For the Examination of 1912 and every alternate year thereafter:

1. Logica. (See Course 5, page 101.)

2. Metaphysica. (See Course 6, page 101.)

3. History of Philosophy. (See Course 7, page 102.)

   Ou Histoire de la Philosophie (pour les candidats de langue française.) (Voir Cours 7, page 102.)

4. Physics. (See Course 11, page 102.)

   Ou Physique (pour les candidats de langue française). (Voir Cours 11, page 102.)

(B) For the Examination of 1913 and every alternate year thereafter:

1. Philosophia Moralis. (See Course 4, page 101.)
2. History of Philosophy. (See Course 8, page 102.)

   Ou Histoire de la Philosophie (pour les candidats de langue française.) (Voir Cours 8, page 102.)
3. Political Economy. (See Course 9, page 102.)

   Ou Economie Politique (pour les candidats de langue française.) (Voir Cours 9, page 102.)
4. Chemistry. (See Course 10, page 102.)

   Ou Chimie (pour les candidats de langue française.) (Voir Cours 10, page 102.)

COURSE IN POLITICAL ECONOMY AND HISTORY

Third Year

I. POLITICAL ECONOMY.

1. Economic Theory. (See Course 1A, page 116.)
2. Economic History—Mediæval. (See Course 1B, page 117.)

II. HISTORY.

1. British Political History from the Roman Period to the Reform Bill. (See Course 1A, page 113.)
2. British Constitutional History from the Roman Period to the Reform Bill. (See Course 1B, page 113.)

Fourth Year

I. POLITICAL ECONOMY.

1. Economic Theory. (See Course 2A, page 118.)
2. Economic History—Modern. (See Course 2B, page 118.)

II. HISTORY.

1. A period of General History. The period selected for 1911-12 is 1400-1600. (See Course 2A, page 113.)

2. A period of Canadian History. The period from which certain special phases will be selected for consideration during 1911-12 is 1763-1867. (See Course 2B, page 114.)

COURSE IN ENGLISH AND HISTORY

Third Year

I. ENGLISH.

1. Chaucer. (See Course 8, page 85 or Course 1, page 108.)

2. The Ballad and Spenser. (See Course 9, page 85 or Course 2, page 108.)

3. Shakespeare. (See Course 10, page 86, or Course 3, page 109.)

4. Milton and Gray. (See Course 11, page 86, or Course 4, page 109.)

II. HISTORY.

1. British Political History from the Roman Period to the Reform Bill. (See Course 1A, page 113.)

2. British Constitutional History from the Roman Period to the Reform Bill. (See Course 1B, page 113.)

Fourth Year

I. ENGLISH.

1. Wordsworth and Coleridge. (See Course 12, page 86, or Course 1, page 110.)

2. Shelley and Tennyson. (See Course 13, page 87, or Course 2, page 110.)

3. Browning. (See Course 14, page 88, or Course 3, page 111.)
4. Nineteenth Century Prose. (See Course 15, page 88, or Course 4, page 111.)

II. HISTORY.

1. A period of General History. The period selected for 1911-12 is 1400-1600. (See Course 2A, page 113.)
2. A period of Canadian History. The period from which certain special phases will be selected for consideration during 1911-12 is 1763-1867. (See Course 2B, page 114.)

COURSE IN POLITICAL ECONOMY AND ENGLISH

Third Year

I. POLITICAL ECONOMY.

1. Economic Theory.(See Course 1A, page 116.)
2. Economic History—Mediæval. (See Course 1B, page 117.)

II. ENGLISH.

1. Chaucer. (See Course 8, page 85, or Course 1, page 108.)
2. The Ballad and Spenser. (See Course 9, page 85, or Course 2, page 108.)
3. Shakespeare. (See Course 10, page 86, or Course 3, page 109.)
4. Milton and Gray. (See Course 11, page 86, or Course 4, page 109.)

Fourth Year

I. POLITICAL ECONOMY.

1. Economic Theory. (See Course 2A, page 118.)
2. Economic History—Modern. (See Course 2B, page 118.)

II. ENGLISH.

1. Wordsworth and Coleridge. (See Course 12, page 86, or Course 1, page 110.)
2. Shelley and Tennyson. (See Course 13, page 87, or Course 2, page 110.)
3. Browning. (See Course 14, page 88, or Course 3, page 111.)
4. Nineteenth Century Prose. (See Course 15, page 88, or Course 4, page 111.)

COURSE IN HISTORY AND FRENCH AND GERMAN

Third Year

I. HISTORY.

1. British Political History from the Roman Period to the Reform Bill. (See Course 1A, page 113.)
2. British Constitutional History from the Roman Period to the Reform Bill. (See Course 1B, page 113.)

II. FRENCH.

1. Literary and Political History. (See Course 6, page 91.)
2. Seventeenth Century Drama. (See Course 8A, page 92.)
3. Seventeenth Century Prose and Poetry (exclusive of Drama.) (See Course 9A, page 93.)
4. Composition, Sight Translation and Oral.

III. GERMAN.

1. Literary and Political History. (See Course 5, page 95.)

2. Klopstock and Lessing. (See Course 6, page 95.)

3. Goethe and Contemporary Writers. (See Course 7, page 96.)

4. Composition, Sight Translation and Oral.

Fourth Year

I. HISTORY.

1. A period of General History. The period selected for 1911-12 is 1400-1600. (See Course 2A, page 113.)

2. A period of Canadian History. The period from which certain special phases will be selected for consideration during 1911-12 is 1763-1867. (See Course 2B, page 114.)

II. FRENCH.

1. Literary and Political History and Old French. (See Course 7, page 92.)

2. Seventeenth Century Drama. (See Course 8B, page 92.)

3. Seventeenth Century Prose and Poetry (exclusive of Drama.) (See Course 9B, page 93.)

4. Composition, Sight Translation and Oral.

III. GERMAN.

1. Literary and Political History and Middle High German. (See Course 8, page 96.)

2. Klopstock and Lessing. (See Course 9, page 96.)

3. Herder, Goethe and Contemporary Writers. (See Course 10, page 97.)

4. Composition, Sight Translation and Oral.

COURSE IN POLITICAL ECONOMY AND FRENCH AND GERMAN

Third Year

I. POLITICAL ECONOMY.

1. Economic Theory. (See Course 1A, page 116.)
2. Economic History—Mediaeval. (See Course 1B, page 117.)

II. FRENCH.

1. Literary and Political History. (See Course 6, page 91.)
2. Seventeenth Century Drama. (See Course 8A, page 92.)
3. Seventeenth Century Prose and Poetry (exclusive of Drama.) (See Course 9A, page 93.)
4. Composition, Sight Translation and Oral.

III. GERMAN.

1. Literary and Political History. (See Course 5, page 95.)
2. Klopstock and Lessing. (See Course 6, page 95.)
3. Goethe and Contemporary Writers. (See Course 7, page 96.)
4. Composition, Sight Translation and Oral.

Fourth Year

I. POLITICAL ECONOMY.

1. Economic Theory. (See Course 2A, page 118.)
2. Economic History—Modern. (See Course 2B, page 118.)

II. FRENCH.

1. Literary and Political History and Old French. (See Course 7, page 92.)
2. Seventeenth Century Drama. (See Course 8B, page 92.)
3. Seventeenth Century Prose and Poetry (exclusive of (Drama.) (See Course 9B, page 93.)
4. Composition, Sight Translation and Oral.

III. GERMAN.

1. Literary and Political History and Middle High German. (See Course 8, page 96.)
2. Klopstock and Lessing. (See Course 9, page 96.)
3. Herder, Goethe and Contemporary Writers. (See Course 10, page 97.)
4. Composition, Sight Translation and Oral.

COURSE IN MATHEMATICS

Third Year

1. Algebra. (See Course 14, page 123.)
2. Determinants and Theory of Equations. (See Course 15, page 123.)
3. Plane Trigonometry. (See Course 16, page 123.)
4. Spherical Trigonometry. (See Course 17, page 124.)
5. Analytical Geometry. (See Course 18, page 124.)
6. Modern Synthetic Geometry—Plane and Solid. See Course 19, page 124.)
7. Differential and Integral Calculus. (See Course 20, page 124.)
8. Physics. (See Course 2, page 128.)
9. Physics. (See Course 6, page 129.)
10. Problems on 1, 2, 3, 4, 5, 6 and 7.

Fourth Year

1. Differential Calculus. (See Course 21, page 124.)
2. Integral Calculus. (See Course 22, page 124.)
3. Differential Equations. (See Course 23, page 124.)
4. Statics. (See Course 24, page 125.)
5. Dynamics. (See Course 25, page 125.)
6. Physics. (See Course 3, page 128.)
7. Physics. (See Course 7, page 129.)
8. Astronomy. (See Course 28, page 125.)
9. Problems on 1, 2, 3, 4 and 5.

(Note.—In the session 1912-1913 courses on "Finite Differences" and "Theory of Probability and Life Contingencies" will be given to Fourth Year students in the Course in Mathematics. See page 125).

COURSES IN NATURAL AND PHYSICAL SCIENCE.

DIVISION A.

Third Year

1. Mathematics. (See Course 20, page 124.)
2. Physics. (See Course 2, page 128 and Course 6, page 129.)
3. Chemistry. (See Course 2, page 139, and Chemical Laboratory, page 141.)
4. Geology and Mineralogy. (See Courses 1, 2, 3 and 4, pages 133 to 135.)

Fourth Year

1. Mathematics. (See Course 23, page 124, and Courses 24 and 25, page 125.)
2. Physics. (See Course 3, page 128 and Course 7, page 129.)
3. Chemistry. (See Course 3, page 139, and Chemical Laboratory, page 141.)

Or Geology and Mineralogy. (See Courses 5 and 6, page 136.)

DIVISION B.

Third Year

1. Mathematics. (See Courses 17, 19—First Term only—and 20, page 124.)
2. Chemistry. (See Course 2, page 139, and Chemical Laboratory, page 141.)
3. Physics. (See Course 2, page 128, and Course 6, page 129.)
4. Astronomy. (See Course 28, page 125.)

Fourth Year

1. Mathematics. (See Course 18, page 124, in part, Course 23, page 124, and Courses 24 and 25, page 125.)
2. Physics. (See Course 3, page 128, and Course 7, page 129.)
3. Astronomy. (See Course 8, page 122.)

DIVISION C.

Third Year

1. Physics. (See Course 2, page 128 and Course 6, page 129.)
2. Chemistry. (See Course 2, page 139 and Chemical Laboratory, page 141.)
3. Botany. (See Course 1, page 130.)
4. Geology and Mineralogy. (See Courses 1, 2, 3 and 4, pages 133 to 135.)

Fourth Year

1. Physics. (See Course 3, page 128 and Course 7, page 129.)
2. Chemistry. (See Course 3, page 139, and Chemical Laboratory, page 141.)

3. Botany. (See Course 2, page 132.)

   Or Geology and Mineralogy. (See Courses 5 and 6, page 136.)

DIVISION D.

Third Year

1. Physics. (See Course 2, page 128, and Course 6, page 129.)
2. Chemistry. (See Course 2, page 139, and Chemical Laboratory, page 141.)
3. Botany. (See Course 1, page 130.)
4. Physiology. (See Course 1, page 143, and Practical Physiology, page 147.)

Fourth Year

1. Physiology. (See Course 2, page 145, and Practical Physiology, page 147.)
2. Chemistry. (See Course 3, page 139, and Chemical Laboratory, page 141.)
3. Physics. (See Course 3, page 128, and Course 7, page 129.)

   Or Botany. (See Course 2, page 132.)

Note 1.—The following subjects of the Second Year are laid down as pre-requisites for the work of the above divisions of the Course in Natural and Physical Science, as indicated:

For Division A, Mathematics; for Division B, Mathematics; for Division C, no specified pre-requsite; for Division D, Chemistry and Biology.

Note 2.—No student shall be allowed to take any Third or Fourth Year examination in the courses in Natural and Physical Science who does not present from the Faculty of the University, or from an affiliated College of the University, where such work is done in the college, a certificate of having attended 75 per cent. of the lectures delivered in each subject of such course.

II.—MASTER OF ARTS

The following are the requirements for the degree of Master of Arts (M.A.):

1. The candidate must be—

(a) A Bachelor of Arts in course of the University of Manitoba of at least three years' standing; or

(b) A Bachelor of Arts who has been admitten *ad eundem gradum* in the University of Manitoba, of at least three years' standing in the university in which his undergraduate course was taken.

2. He must prepare, and submit to the Board of Studies, a thesis on some literary or scientific subject under the following conditions—

(a) The subject of the thesis must first be submitted to the Board of Studies for approval.

(b) No paper previously read before any association, or which may have been published in any way, shall be accepted as a thesis.

(c) General topics, involving no special research, will not be accepted.

(d) The thesis must be accompanied by footnotes containing definite references to all authorities quoted or used.

(e) At least four months must elapse between the time of approval of the subject and the handing in of the thesis.

(f) The thesis, if accepted, becomes the property of the University.

(g) At least six type-written or printed copies of the thesis must be forwarded to the Registrar, together with the Degree fee, not later than March 1st of the year in which the Degree is to be granted.

UNDERGRADUATE COURSES IN ARTS IN DETAIL

GREEK

Instruction in Greek is provided only in the affiliated Colleges.

1a. Homer: Odyssey IX. (Merry, Clarendon Press.)
Lucian: Vera Historia, Books I. and II. (Jerram, Clarendon Press.)

(The above for the Examination of 1911.)

Or Homer: Odyssey VII. (Merry, Clarendon Press.)
Lysias: Contra Eratosthenem (Shuckburgh, Macmillan & Co.)

(The above for the Examination of 1912.)

1b. *Grammar*—Goodwin's Greek Grammar, with special reference to Parts I. and II.
Composition—Pitman's Greek Prose Composition. (Macmillan & Co.)

2a. Euripides: Alcestis. (Hadley, Pitt Press.)
Homer: Iliad I. (Monro, Clarendon Press.)
Plato: Apology. (Adam, Pitt Press.)

(The above for the Examination of 1911.)

Or Euripides: Medea. (Headlam, Pitt Press Series.)
Homer: Iliad III. (Monro, Clarendon Press.)
Plato: Laches. (Tatham, Macmillan & Co.)

(The above for the Examination of 1912.)

2b. *Grammar*—Goodwin's Greek Grammar, with special reference to Parts III.-V.
Composition—Sidgwick's Greek Prose, Part I.

3. Demosthenes: Olynthiacs I.-III. (Glover, Pitt Press.)
Homer: Odyssey, Books XXII.-XXIV. (Merry, Clarendon Press.)
Herodotus: Book VI. (Strachan, Macmillan & Co.)
Gospel of Mark: (Cambridge Greek Testament.)

4. Thucydides: Book VII. (Marchant, Macmillan & Co.)
Sophocles: Oedipus Tyrannus. (White, Ginn & Co.)
Aeschylus: Prometheus Vinctus. (Mather, Allyn & Bacon.)
Epistle to the Philippians. (Cambridge Greek Testament.)

5. *Greek and Roman Epic Poetry.*

Homer: Iliad, Books VI., IX., XVIII., XXII., XXIV.
Odyssey, Books VII.-XII.
Vergil: Aeneid, Books I., IV.-VIII.

Collateral Reading—

Jebb: Introduction to Homer.
Sellar: Roman Poets of the Augustan Age—
Vergil, cc. 8, 9, 10, 11.

6. *Greek Tragedy.*

Aeschylus: Prometheus Vinctus.
Sophocles: Oedipus Tyrannus, Antigone, Philoctetes.

Collateral Reading—

Barnett: Greek Drama, cc. 1, 2, 3 (Temple Primers).
Moulton: Ancient Classical Drama, cc. 1, 3.
Jebb: Classical Greek Poetry, cc. 6, 7.

7. *Greek and Roman Comedy.*

Aristophanes: Birds, Clouds.
Terence: Andria.
Plautus: Trinummus.

Collateral Reading—

Moulton: Ancient Classical Drama, cc. 7, 8, 9, 11.
Jebb: Classical Greek Poetry, c. 7.
Sellar: Roman Poets of the Republic, cc. 6, 7.

8. *Greek and Roman Literary Criticism.*

Aristotle: Poetics. (Butcher.)
Horace: De Arte Poetica.
Quintilian: Book X.

Collateral Reading—

BUTCHER: Aristotle's Theory of Poetry and Fine Art; The Essays.

9. *Greek Philosophy.*
PLATO: Republic, I.-IV., X.
Phaedo.

Collateral Reading—

JOWETT: Introductions to Republic and Phaedo.

10. *Greek History.* 500 B.C. to 431 B.C.
(a) HOLM: History of Greece, Vol. II., cc. 1-21.
(b) HERODOTUS: VII.-IX.
THUCYDIDES: I.

11. *Greek History.* 431 B.C. to 338 B.C.
(a) HOLM: History of Greece, Vol. II., c. 22, to Vol. III., c. 19.
(b) THUCYDIDES: II., VI., VII.
DEMOSTHENES: Philippic I.
Olynthiacs.
ARISTOTLE: Constitution of Athens.

LATIN

Instruction in Latin is provided only in the affiliated Colleges.

1A. HORACE: Selected Odes, omitting 9, 14, 31. (Wickham, Clarendon Press.)
CICERO: Pro Lege Manilia.

(The above for the Examination of 1911.)

Or HORACE: Selected Odes, omitting 9, 14, 31. (Wickham, Clarendon Press.)
CICERO: In Catilinam, I., II.

(The above for the Examination of 1912.)

1B. *Grammar*—BENNETT: With special reference to Parts I.-IV.

Composition—Bradley Arnold's Latin Prose Composition (Exercises 1-35), with simple continuous prose passages.

2. Cicero: De Senectute.
Vergil: Aeneid VI.

(The above for the Examination of 1911.)

Or Horace: Epistles I., omitting 3, 5, 8, 9, 17, 18. (Shuckburgh, Pitt Press Series.)
Cicero: Pro Murena. (Heitland, Cambridge University Press.)
(The above for the Examination of 1912.)

3. Cicero: Cicero in his Letters, I.-XL. (Tyrrell, Macmillan & Co.)
Plautus: Captivi and Trinummus. (Morris, Ginn & Co.)

4. Vergil: Aeneid I., IV., VII.
Tacitus: Annals I. and II. (Furneaux, Clarendon Press.)

5. *Greek and Roman Epic Poetry.*

Homer: Iliad, Books VI., IX., XVIII., XXII., XXIV.
Odyssey, Books VII.-XII.
Vergil: Aeneid, Books I., IV.-VIII.

Collateral Reading—

Jebb: Introduction to Homer.
Sellar: Roman Poets of the Augustan Age—
Vergil, cc. 8, 9, 10, 11.

6. *Latin Lyric Poetry.*

Horace: Odes.
Catullus: Selections (Simpson).

Collateral Reading—

Sellar: Roman Poets of the Republic, c. 15.
Roman Poets of the Augustan Age—Horace, cc. 1, 6.
Shorey: Odes and Epodes of Horace; The Introduction. (Sanborn, Boston.)

7. *Greek and Roman Comedy.*

ARISTOPHANES: Birds. Clouds.
TERENCE: Andria.
PLAUTUS: Trinummus.

Collateral Reading—

MOULTON: Ancient Classical Drama, cc. 7, 8, 9, 11.
JEBB: Classical Greek Poetry, c. 7.
SELLAR: Roman Poets of the Republic, cc. 6, 7.

8. *Roman Satire and Epigram.*

HORACE: Satires, I., omitting 2 and 8.
Satires, II., 1, 2, 5, 6.
JUVENAL: Satires, 1, 3, 5, 7, 8, 10.
MARTIAL: Post's Selections, Books I.-IV.

Collateral Reading—

SELLAR: Roman Poets of the Augustan Age—Horace, cc. 1, 2.
DILL: Roman Society from Nero to Marcus Aurelius, cc. 1, 2. (The Macmillan Co.)
BOISSIER: The Poet Martial, from "Tacitus and Other Roman Studies." (Constable, London.)

9. *Greek and Roman Literary Criticism.*

ARISTOTLE: Poetics. (Butcher.)
HORACE: De Arte Poetica.
QUINTILIAN: Book X.

Collateral Reading—

BUTCHER: Aristotle's Theory of Poetry and Fine Art; The Essays.

10. *Roman Philosophy.*

LUCRETIUS: De Rerum Natura, I., III., V.

Collateral Reading—

MAYOR: Ancient Philosophy.

11. *Roman History.* 146 B.C. to 50 B.C.

    (a) HOW AND LEIGH: History of Rome.
    PELHAM: Outlines of Roman History, Book III. c. 3, Book IV.
    (b) CICERO: Select Letters, Watson, Parts 1, 2.
    SALLUST: Catiline.

12. *Roman History.* 49 B.C. to 37 A.D.

    (a) MOMMSEN: Book V., c. 9 to end.
    SHUCKBURGH: Augustus.
    (b) CICERO: Select Letters—Watson, Parts 3, 4, 5. Philippic II.
    CAESAR: Civil War, I., 1-29; III.
    MONUMENTUM ANCYRANUM.
    TACITUS: Annals, I., II.

HEBREW AND SCRIPTURE.

Instruction in Hebrew and Scripture is provided only in the affiliated Colleges.

1. *Hebrew Grammar*: DAVIDSON (to end of regular verbs), or HARPER.
2. *Hebrew Grammar*: DAVIDSON (completed); or HARPER.
3. *Old Testament*: Proverbs, Nahum, Habakkuk, Zephaniah, Obadiah (Cambridge Bible).
4. *Old Testament*: Psalms I., II., VIII., XIX., XX., XXII., XXIII., XXIV., XXVI., XXIX., XXXVI., Haggai, Zechariah, Malachi (Cambridge Bible).
5. *New Testament*: Ephesians and Galatians (Cambridge Bible).
6. *New Testament*: James, Peter and Jude (Cambridge Bible).

ENGLISH.

Instruction in English of the First and Second Years is given only in the affiliated Colleges; instruction in English of the Third and Fourth Years is given both in the University and in the affiliated Colleges.

1A. *Composition and Prose Literature.*

(1) *Composition*—The writing of at least four original compositions throughout the year from a list of subjects given.

(2) *Prose Literature*—The study of the English prose selections found in Carpenter and Brewster's Modern English Prose (The Macmillan Co.), pages 1-108.

(Note.—A maximum of ten marks will be allowed for each of the term essays in connection with this course, and a maximum of sixty marks for the examination paper in Prose Literature at the annual examinations.)

1B. *History of English Literature and English Verse.*

(1) History of English Literature—

LONG: History of English Literature (Ginn & Co.), Chapters I.-VIII., inclusive.

(2) English Verse—

SHAKESPEARE: King John.
Romeo and Juliet.

(The above for the Examination of 1911.)

Or SHAKESPEARE: Richard III.
The Tempest.

(The above for the Examination of 1912.)

(Note.—A maximum of forty marks will be allowed for the History of Literature, and a maximum of sixty marks for the Shakespeare at the annual examination on this course.)

2A. *Composition and Prose Literature.*

1) *Composition*—The writing of at least four original compositions throughout the year from a list of subjects given.

(2) *Prose Literature*—The study of the English prose selections found in Carpenter and Brewster's Modern English Prose (The Macmillan Co.), pages 215-329.

(Note.—A maximum of ten marks will be allowed for each of the term essays in connection with this course, and a maximum of sixty marks for the examination paper in Prose Literature at the annual examinations.)

2B. *History of English Literature and English Verse.*

(1) History of English Literature—
Long: History of English Literature. (Ginn & Co.), Chapter IX. to end.

(2) English Verse—

Milton: Lycidas; L'Allegro; Il Penseroso.
Dryden: Alexander's Feast.
Pope: The Rape of the Lock.
Goldsmith: The Deserted Village.
Gray: The Bard.
Burns: Tam o' Shanter.
Wordsworth: Lines Composed a few miles above Tintern Abbey; Resolution and Independence; The Happy Warrior; Ode on the Intimations of Immortality.
Coleridge: Christabel; Kubla Khan.
Byron: Canto III. of Childe Harold's Pilgrimage.
Keats: The Eve of St. Agnes.
Tennyson: The Lady of Shallott; Oenone; Mort d'Arthur.
Browning: My Last Duchess; The Bishop Orders His Tomb at St. Praxed's.
Arnold: The Scholar Gypsy.

(The above poems are contained in "The English Parnassus," edited by Dixon & Grierson, and published by the Clarendon Press, Oxford.)

(The above for the Examination of 1911.)

Or Milton: Lycidas; L'Allegro; Il Penseroso.
Dryden: Alexander's Feast.
Pope: The Rape of the Lock.
Goldsmith: The Deserted Village.
Gray: The Bard.

Burns: Tam o' Shanter.
Wordsworth: Resolution and Independence; The Happy Warrior; Michael.
Coleridge: Christabel; Kubla Khan.
Byron: Canto III. of Childe Harold's Pilgrimage.
Keats: The Eve of St. Agnes.
Tennyson: The Lady of Shallott; Oenone; Mort d'Arthur.
Browning: My Last Duchess; The Bishop Orders His Tomb at St. Praxed's.
Arnold: The Scholar Gypsy.

(The above poems are contained in "The English Parnassus," edited by Dixon & Grierson, and published by the Clarendon Press, Oxford.)

(The above for the Examination of 1912.)

(Note.—A maximum of forty marks will be allowed for the History of Literature, and a maximum of sixty marks for the Shakespeare at the annual examination on this course.)

3. *Auteurs.*

Shakespeare: Julius Caesar.
Newman: Callista.

(Les auteurs ci-dessus pour l'Examen de 1911.)

Or Longfellow: Evangeline.
Ruskin: Crown of Wild Olive.

(Les auteurs ci-dessus pour l'Examen de 1912.)

4. *Grammaire, Composition, Dictée et Traduction à première vue.* Harvey's Practical English Grammar (de la page 105 à la page 192).

5. *Auteurs.*

Milton: Paradise Lost, Book I.
Shakespeare: Coriolanus.

(Les auteurs ci-dessus pour l'Examen de 1911.)

Or Shakespeare: Coriolanus.
Newman: Selections, edited by M. F. Egan.

(Les auteurs ci-dessus pour l'Examen de 1912.)

6. *Grammaire et Composition. Dictée et Traduction à première vue.* Harvey's Practical English Grammar (de la page 192 à la fin).

7. *Auteurs.*

(a) LAMB—

Essays in "Gateway Series," edited by Genung.
The following essays: Mackery End, Poor Relations, Old China, Grace Before Meat, The Praise of Chimney-Sweepers, Dream-Children.

(b) TENNYSON—

In Memoriam.

8. *Chaucer*—

GEOFFREY CHAUCER—

The Prologue to the Canterbury Tales.
The Knight's Tale.
(One volume, edited by Morris & Skeat, Clarendon Press.)

Required reading—

CHAUCER, by A. W. Pollard. (Macmillan.)
A Short History of English Literature, by GEORGE SAINTSBURY. Book III., pp. 115-156. (Macmillan.)

9. *The Ballad and Spenser.*

(a) The Ballad—

The selections contained in the Ballad Book, edited by Katherine Lee Bates. (Boston, Sibley & Co.)

(b) EDMUND SPENSER—

Astrophel.
The Faerie Queene, Book I.
Epithaliamion. (Works of Spenser, Globe edition, Macmillan.)

Required reading—

Chapter on "Ballads," by F. B. GUMMERE, in the Cambridge History of English Literature, Vol. II., ch. XVII., pp. 395-418.
Spenser (English Men of Letters), by DEAN CHURCH.
A Short History of English Literature, Books IV.-V., pp 157-311, by SAINTSBURY.

10. *Shakespeare.*

WILLIAM SHAKESPEARE—

Romeo and Juliet.
As You Like It.
King Lear.
Antony and Cleopatra.

Required reading—

A Life of William Shakespeare, by SIDNEY LEE (Macmillan).

A Short History of English Literature, by SAINTSBURY, Book VI., pp. 313-389.

11. *Milton and Gray.*

(a) JOHN MILTON—

The Sonnets.
Comus.
Paradise Lost. Books I., II., III.
Prose of Milton (pp. 1-129), edited by Richard Garnett (Walter Scott).

(b) THOMAS GRAY—

On a Distant Prospect of Eton College.
Hymn to Adversity.
Elegy Written in a Country Churchyard.
The Progress of Poesy.

Required reading—

Milton (English Men of Letters), by MARK PATTISON.

Gray (English Men of Letters), by EDMUND GOSSE.

A Short History of English Literature, by SAINTSBURY, Books VII., VIII., IX., pp. 391-652.

12. *Wordsworth and Coleridge.*

(a) WILLIAM WORDSWORTH—

We Are Seven, Lucy Gray, The Pet Lamb, Ruth, Hart-Leap Well, The Affliction of Margaret, The Leech

Gatherer, The Brothers, My Heart Leaps Up, To the Daisy, Three Years She Grew in Sun and Shower, To the Cuckoo, She Was a Phantom of Delight, To a Highland Girl, Stepping Westward, The Solitary Reaper, Ode on Intimations of Immortality, Influence of Natural Objects, Lines Composed a Few Miles Above Tintern Abbey, The French Revolution (as it appeared to enthusiasts at its commencement), Nutting, To Mary Wordsworth. (Poems of Wordsworth, edited by Matthew Arnold, "Golden Treasury Series." Macmillan.)

(b) SAMUEL TAYLOR COLERIDGE—

The Golden Book of Coleridge, Parts II.-III. (pp. 95-179) edited by Stopford A. Brooke. (J. M. Dent & Co.)

Required reading—

"Preface" to Poems of Wordsworth, by MATTHEW ARNOLD.

Wordsworth (English Men of Letters), by F. W. H. MEYERS.

Coleridge (English Men of Letters), by H. D. TRAILL.

A Short History of English Literature, by SAINTSBURY, Book X., pp. 653-726.

13. *Shelley and Tennyson.*

(a) PERCY BYSSHE SHELLEY—

Lines Written Among the Euganean Hills, Hymn to Intellectual Beauty, Ode to the West Wind, The Sensitive Plant, The Cloud, To a Skylark, Ode to Liberty, Epipsychidion, Adonais.

(b) ALFRED, LORD TENNYSON—

The Lady of Shallott, Sir Galahad, St. Agnes' Eve, The Palace of Art, The Vision of Sin, In Memoriam. The following Idylls of the King: (1) The Coming of Arthur, (2) Lancelot and Elaine, (3) The Holy Grail, (4) The Last Tournament, (5) Guinevere, (6) The Passing of Arthur.

Required reading—

Shelley (English Men of Letters), by J. A. SYMONDS.
The Introduction in "Tennyson, His Art and Relation to Modern Life," by STOPFORD A. BROOKE, pp. 7-52. (Isbister.)

14. *Browning.*

ROBERT BROWNING—

My Last Duchess, The Flight of the Duchess, The Lost Leader, The Last Ride Together, By the Fireside, Pictor Ignotus, Fra Lippo Lippi, Andrea del Sarto, The Bishop Orders His Tomb at St. Praxed's, A Toccata of Galuppi's, Abt Vogler, Prospice, A Grammarian's Funeral, An Epistle Containing the Strange Medical Experience of Karshish, the Arab Physician, Caliban Upon Setebos, Rabbi Ben Ezra, Confessions, In a Balcony.

Required reading—

Robert Browning (Great Writers), by WILLIAM SHARP.

15. *Nineteenth Century Prose.*

(a) GEORGE ELIOT: Adam Bede.

(b) WILLIAM MAKEPIECE THACKERAY: Henry Esmond.

(c) JOHN RUSKIN: Unto This Last, The Crown of Wild Olive.

Required reading—

George Eliot (English Men of Letters), by LESLIE STEPHEN.

Thackeray (English Men of Letters), by ANTHONY TROLLOPE.

Ruskin (English Men of Letters), by FREDERICK HARRISON.

A Short History of English Literature, by SAINTSBURY, Book XI., pp. 727-797.

FRENCH.

Instruction in French is provided only in the affiliated Colleges.

1A. GEORGE SAND: La Mare au Diable. (Heath & Co.)
MOLIÈRE: Le Bourgeois Gentilhomme. (Heath & Co.)
(The above for the Examination of 1911.)
Or MOLIÈRE: L'Avare. (Heath & Co.)
DAUDET: Le Petit Chose. (Heath & Co.)
(The above for the Examination of 1912.)

1B. *Grammar, Composition, Dictation and Sight Translation.*
High School French Grammar. (Fraser and Squair.)

1C. *Composition et Littérature en Prose.*

(1) *Composition*—On écrira dans le courant de l'année scolaire, au moins quatre compositions originales. On fera choix d'une liste de sujets donnés par les examinateurs de Français.

(2) *Littérature en Prose.*

VEREST: Manuel de Littérature. pp. 126-441.

(NOTE—Un maximum de dix points sera alloué à chacune des compositions ci-dessus et un maximum de soixante points à la composition sur Verest aux examens d'avril.)

1D. *Modèles Français (Procès) et Poesie Dramatique.*

PROCÈS: Modèles Français, Tome III.
MOLIÈRE: L'Avare.
RACINE: Athalie.
(Les auteurs ci-dessus pour l'examen de 1911.)
PROCÈS: Modèles Français, Tomes II. et III. Extraits de Mme. de Sévigné, La Bruyère, Hamilton, Le Sage, Saint-Simon, Voltaire, Buffon, Gilbert, Châteaubriand, Lamennais, Veuillot, Augustin Thierry, Sainte-Beuve, Thiers, Taine, Leconte de L'Isle, Sully Prud'homme.
CORNEILLE: Polyeucte.
MOLIÈRE: Le Bourgeois Gentilhomme.
(Les auteurs ci-dessus pour l'examen de 1912.)

2A. LA FONTAINES Fables, Books III. and IV.
BEAÚMARCHAIS: Le Barbier de Séville. (Heath & Co.)
FEUILLET: Roman d'un Jeune Homme Pauvre. (Heath & Co.)
(The above for the Examination of 1911.)

Or ROSTAND: Cyrano de Bergerac. (Holt & Co.)
MÉRIMÉE: Colomba. (Ginn & Co.)

(The above for the Examination of 1912.)

2B. *Composition, Rhétorique et Littérature en Prose.*

(1) *Composition*—On écrira, dans le courant de l'année scolaire, au moins quatré compositions originales. On fera choix d'une liste de sujets donnés par les examinateurs de Français.

(2) *Rhétorique et Littérature en Prose*—

VEREST: Manuel de Littérature, Livre III., Chapitre 3, La Poésie dramatique (pp. 441-499); Livre IV., L'éloquence (pp. 532-669).
BOSSUET: Sermon sur l'ambition. (Lebarq.)
BOURDALOUE: Sermons choisis. (Hatsfeld.)
LACORDAIRE: Eloge funèbre de Daniel O'Connell.
JOUBERT: Pensées, maximes et essais.

(Les auteurs ci-dessus pour l'examen de 1911.)

VEREST: Manuel de Littérature, Livre III., Chapitre 3, La Poésie dramatique (pp. 441-499); Livre IV., L'éloquence (pp. 532-669).
BOSSUET: Panégyrique de Saint Paul. (Bertrand.)
BOURDALOUE: Sermon sur la Médisance.
LACORDAIRE: Frédéric Ozanam.
RIVAROL: De l'Universalité de la Langue Française.
BAZIN: Les Oberlé.

(Les auteurs ci-dessus pour l'examen de 1912.)

(NOTE—Un maximum de dix points sera alloué à chacune des compositions ci-dessus et un maximum de soixante points à la composition sur Verest et les auteurs en prose aux examens d'avril.)

2C. *Modèles Français (Procès) et Poesie Dramatique.*

PROCÈS: Modèles Français, Tome III. Extraits en Poésie; Lamartine, Hugo, Musset, Gilbert, Laprade, Sully Prud'homme, A. Chénier.

MOLIÈRE: Les Précieuses Ridicules.
CORNEILLE: Le Menteur.

(Les auteurs ci-dessus pour l'examen de 1911.)

PROCÈS: Modèles Français, Tomes II. et III.; Poésies d'André Chénier, Lamartine, Hugo, Musset, de Vigny.
MOLIÈRE: Les Précieuses Ridicules.
ROSTAND: Cyrano de Bergerac.

(Les auteurs ci-dessus pour l'examen de 1912.)

3. *History of French Literature.*

Outline of the History of French Literature up to the end of the Seventeenth Century.

4. *Authors.*

CORNEILLE—

Le Cid. (Heath & Co.)

RACINE—

Iphigénie. (Amer. Book Co.)

MOLIÈRE—

Les Précieuses Ridicules. (Heath & Co.)
Le Misanthrope. (Heath & Co.)

5. *Authors.*

CORNEILLE—

Le Cid. (Heath & Co.)
Polyeucte. (Ginn & Co.)

RACINE—

Athalie. (Heath & Co.)

MOLIÈRE—

Les Précieuses Ridicules. (Heath & Co.)
Le Misanthrope. (Heath & Co.)

6. *French Literary and Political History.*

(a) *History of French Literature*—

DOWDEN: History of French Literature, (Appleton), pp. 1-127.

(b) *History of France*—

Outline of the History of France to the end of the seventeenth century, with special emphasis upon the seventeenth century.

DURUY: History of France (abridged and translated by Mrs. Carey), pp. 365-479.

7. *French Literary and Political History and Old French.*

(a) History of French Literature, as in Course 6 above.
(b) History of France, as in Course 6 above.
(c) Old French—
Chanson de Roland, Sections I. to IV., inclusive. (Extraits de la Chanson de Roland, Gaston Paris).

8A. *Seventeenth Century Drama.*

(a) CORNEILLE—

Le Cid. (Heath & Co.)

(b) RACINE—

Iphigénie. (Amer. Book Co.)
Athalie. (Heath & Co.)

(c) MOLIÈRE—

Le Médecin Malgré Lui. (Heath & Co.)
Les Précieuses Ridicules. (Heath & Co.)
Le Malade Imaginaire. (Ginn & Co.)
Le Misanthrope. (Heath & Co.

(d) Required critical reading—
P. STAPFER: Molière et Shakespeare. (Hachette et Cie.)
DOWDEN: History of French Literature (Book III., Chaps. IV. and VI.).

8B. *Seventeenth Century Drama.*

(a) CORNEILLE—

Le Cid. (Heath & Co.)
Polyeucte. (Ginn & Co.)

(b) RACINE—

Athalie. (Heath & Co.)
Iphigénie. (Amer. Book Co.)

(c) MOLIÈRE—

Le Médecin Malgré Lui. (Heath & Co.)
Les Précieuses Ridicules. (Heath & Co.)
Le Malade Imaginaire. (Ginn & Co.)
Le Misanthrope. (Heath & Co.)

(d) Required critical reading—

P. STAPFER: Molière et Shakespeare. (Hachette et Cie.)
DOWDEN: History of French Literature (Book III., Chaps. IV. and VI.).

9A. *Seventeenth Century Prose and Poetry (other than Drama.*

(a) BOSSUET—

In Oraisons Funèbres (Hachette et Cie.) the following orations:

Henriette d'Angleterre.

Henriette de France.

(b) MADAME DE SÉVIGNÉ—

Letters of Madame de Sévigné. (Ginn & Co.)

(c) Required critical reading—

DOWDEN: History of French Literature (Book III., except Chaps. IV. and VI.).

PELLISSIER: The Literary Movement in France during the Nineteenth Century (Chap. I.).

BOISSIER: Madame de Sévigné. (Grands Écrivains Series.)

T. F. CRANE: La Société Française au Dix-Septième Siècle. (Putnam & Sons.)

9B. *Seventeenth Century Prose and Poetry (other than Drama).*

(a) BOSSUET—

In Oraisons Funèbres (Hachette et Cie.) the following orations:
Henriette d'Angleterre.
Henriette de France.
Prince de Condé.

(b) MADAME DE SÉVIGNÉ—

Letters of Madame de Sévigné. (Ginn & Co.)

(c) Required critical reading—

DOWDEN: History of French Literature (Book III., except Chaps. IV. and VI.).
PELLISSIER: The Literary Movement in France During the Nineteenth Century (Chap. I.).
BOISSIER: Madame de Sévigné. (Grands Écrivains Series).
T. F. CRANE: La Société Française au Dix-Septième Siècle. (Putnam & Sons.)

GERMAN.

Instruction in German is provided only in the affiliated Colleges.

1A. HILLERN: Höher als die Kirche. (Ginn & Co.)
LESSING: Minna von Barnhelm. (Ginn & Co.)
(The above for the Examination of 1911.)

Or HOFFMAN: Meister Martin der Küfner. (Holt & Co.)
FREYTAG: Die Journalisten. (Holt & Co.)
(The above for the Examination of 1912.)

1B. *Grammar, Composition, Dictation and Sight Translation*
High School German Grammar. (Van der Smissen and Fraser, 1909 edition.)
Pope's "German Composition," Part I., is recommended.

2. KELLER: Romeo and Julia auf dem Dorfe. (Heath & Co.)
SCHILLER: Wilhelm Tell. (Heath & Co.)
(The above for the Examination of 1911.)
Or MEYER-FÖRSTER: Prinz Karl Heinrich. (Newson & Co.)
GRILLPARZER: Des Meeres und der Liebe Wellen. (Holt & Co.)
(The above for the Examination of 1912.)

3. (a) *History of Literature.*
Outline of the History of German Literature to 1788.
(b) *Authors.*

Klopstock: Oden. (Reclam.)
Lessing: Nathan der Weise. (Amer. Book Co.)
Goethe: Götz von Berlichingen. (Holt & Co.)

4. (a) *History of Literature.*
Outline of the History of German Literature to 1788.

(b) *Authors.*

Klopstock: Messias. Cantos I. and II. (Reclam.)
Lessing: Minna von Barnhelm. (Holt & Co.)
Goethe: Die Leiden des Jungen Werthers. (Reclam.)
Harris, Selections from Goethe's Poems. (Heath & Co., pp. 1-75.)

5. *Literary and Political History of Germany.*

(a) Outline of the History of Germany to 1786, with special emphasis upon the age of Frederick the Great.
Henderson: History of Germany.
(b) History of German Literature to 1740.
Wilhelm Scherer: History of German Literature, Vol. I. (Scribner's Sons).

6. *Klopstock and Lessing.*

(a) Klopstock: Oden, Die Stunden Der Weihe, Der Zürchersee, An Bodmer, Die feiden Musen, Der Rheinwein, Der Eislauf, Der Jüngling, Unsere Sprache, Hermann und Thusnelda, Mein Vaterland. (Klopstock's "Messias und Oden," ed. by Dr. R. Kinzel. Halle, Buchhandlung des Waisenhauses.)

(b) Lessing—

Emilia Galotti. (Heath & Co.)
*Nathan der Weise. (Am. Book Co.)

(c) Required critical reading—

T. W. Rolleston: Lessing. (Great Writers' Series.)
Wilhelm Scherer: History of German Literature, Vol. II., pp. 1-82.

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*It is recommended that this work be read during the summer vacation preceding the term.

7. *Goethe and Contemporary Writers.*

(a) GOETHE—

Die Leiden des Jungen Werthers. (Reclam.)
Götz von Berlichingen. (Holt & Co.)
Harris, Selections from Goethe's Poems. (Heath & Co., pp. 1-75.)

Egmont. (Heath & Co.)

(b) Required critical reading—

BIELSCHOWSKY: Life of Goethe. (English translation, published by Putnam & Sons).
WILHELM SCHERER: History of German Literature, Vol. II., pp. 82-144.

8. *Literary and Political History of Germany and Middle High German.*

(a) History of Germany to 1786.
HENDERSON: History of Germany.

(b) History of German Literature to 1740.
*WILHELM SCHERER: History of German Literature, Vol. I.

(c) WALTHER VON DER VOGELWEIDE. (Schulausgabe, ed. Bartsch).
Select Poems Nos. 1-5, 7-9, 11, 12, 20, 22, 26, 33, 35, 37, 39, 54, 59, 61, 62, 67, 70, 72-5, (including a study of the elements of Middle High German Grammar).

9. *Klopstock and Lessing.*

(a) KLOPSTOCK—

Messias, Cantos I. and II.
Oden: Die Stunden der Weihe, Der Zürchersee, An Bodmer, Die beiden Musen, Der Rheinwein, Der Eislauf, Der Jüngling, Unsere Sprache, Hermann und Thusnelda, Mein Vaterland.

(Students will use Klopstock's "Messias und Oden," ed. by Dr. K. Kinzel, Halle, Buchhandlung des Waisenhauses.)

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*It is recommended that this work be read during the summer vacation preceding the term.

(b) LESSING—

Minna von Barnhelm. (Holt & Co.)
*Emilia Galotti. (Heath & Co.)

(c) Required critical reading—

KUNO FRANCKE: History of German Literature as Determined by Social Forces (Chapters I., VI., VII., VIII.).

WILHELM SCHERER: History of German Literature (Vol. II., pp. 1-82.)

10. *Herder, Goethe and Contemporary Writers.*

(a) HERDER—

Stimmen der Vőlker in Liedern. (Stackmann, Leipzig.)

(b) GOETHE—

*Die Leiden des jungen Werthers. (Reclam.)
Gőtz von Berlichingen. (Holt & Co.)
Harris, Selections from Goethe's Poems. (Heath & Co., pp. 1-75.)

(c) Required critical reading—

BIELSCHOWSKY: Life of Goethe. (English translation, published by Putnam & Sons.)

WILHELM SCHERER: History of German Literature, Vol. II., pp. 82-144.

ICELANDIC.

Instruction in Icelandic is provided only in Wesley College.

1A. *Grammar.*

Wimmer'sIcelandic Grammar (complete).

1B. *Composition.*

Writing Icelandic from dictation. Translation from Icelandic into English, and from English into Icelandic. Writing of short essays and digests of books.

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* It is recommended that these works be read during the summer acation preceding the term.

1C. *Authors.*

Laxdæla.
Eyrbyggja.
(The above for the Examination of 1911.)

Or Egils Saga.

Gunnlaugs Saga ormstungu.
(The above for the Examination of 1912.)

2. *Authors.*

Sæmundar Edda, Heroic Lays, ed. Finnur Jónsson.
Bókmenta Saga, Finnur Jónsson.
(The above for the Examination of 1911.)

Or Sæmundar Edda (selected portions).

Collateral reading—

The prose part of Snorra Edda.
History of Icelandic Literature, by Finnur Jónsson.
(The above for the Examination of 1912.)

SWEDISH.

1A. *Grammar and Composition.*

Translation from English into Swedish and from Swedish into English. Writing of essays.

1B. *Authors and Literary History.*

Esaias Tegner: Frithiof's Saga.
Swedish Literature from 1772 to 1830.
Karl Wartburg: Svensk Literaturhistoria.
A. Ekerman: Läsebok till Svenska Literaturhistorian.

2A. *Grammar and Composition.*

Translation from English into Swedish and from Swedish into English. Writing of essays.

2B. *Authors and Literary History.*

Karl Snoilsky: Svenska bilder.
J. O. Walin: Dödens ängel.
Swedish literature from 1830 to the present time.
Karl Wartburg: Svensk literaturhistoria.
A. Ekerman: Läsebok till Svenska literaturhistorien.

PHILOSOPHY (ENGLISH).

Instruction in English Philosophy is provided only in the ffliated Colleges.

1. *Logic.*

   CREIGHTON: Introduction and Part I. (Edition of 1910.)

2. *Introduction to Philosophy.*

   OLDHAM: An Introduction to the Study of Philosophy.

3. *Psychology.*

   G. F. STOUT: Manual of Psychology (University Tutorial Series).

4. *Metaphysics.*

   J. S. MACKENZIE: Manual of Metaphysics (University Tutorial Series).

5. *Ethics.*

   J. S. MACKENZIE: Manual of Ethics (University Tutorial Series).

6. *Plato.*

   Republic.

7. *History of Philosophy.*

   Ancient and Mediæval. (WEBER, Parts I. and II.)

8. *History of Philosophy.*

   Modern. (WEBER, Part III.)

9. *Metaphysics.*

   Locke and the transition through Berkeley to Hume.
   LOCKE: Essays, Book II.
   BERKELEY: Selections, ed. Fraser.
   HUME: Selections, ed. Aikins.

10. *Metaphysics.*

JANET: Final Causes.

MACKENZIE: Outlines of Metaphysics.

11. *Metaphysics.*

KANT: Critique of Pure Reason.

12. *Logic.*

CREIGHTON: Parts II. and III. (Edition of 1910.)
MILL: Logic.

13. *Psychology.*

STOUT: Manual of Psychology

14. *Ethics.*

PLATO: Republic.
ARISTOTLE: Ethics.
MACKENZIE: Ethics.
GREEN: Prolegomena to Ethics, (omitting Book III., Chap. 5, and Book IV., Chap. 3 and 4).

15. *Philosophy of Religion.*

JOHN CAIRD: Introduction to the Philosophy of Religion.

16. *Political Science.*

MILL: Political Economy.
WALKER: Political Economy.
BAGEHOT: English Constitution.

17. *Political Science.*

BOSANQUET: Philosophical Theory of the State.

PHILOSOPHY (LATIN).

Instruction in Latin Philosophy is provided only in St. Boniface College.

1. *Logic.*

RUSSO: Logica.
POLAND: The Laws of Thought.

2. *Logique.*

(Pour les candidats de langue française au cours général.)
FONSEGRIVE: Logique.

3. *Métaphysique.*

(Pour les candidats de langue française au cours général.)
FONSEGRIVE: Métaphysique.

4. *Philosophia Moralis.*

(a) Pour les candidats de langue française:
RUSSO.
MONSABRÉ: Radicalisme contre Radicalisme.
COUSIN: Du Vrai du Beau et du Bien.
BRUNETIÈRE: Discours de Combat.

(b) For English-speaking students:
RUSSO.
MING: Modern Ethics.
GERARD: Evolution—The Old Riddle and the Newest Answer.

5. *Logica.*

(a) Pour les candidats de langue française:
RUSSO.
(b) For English-speaking students:
RUSSO.

6. *Metaphysica.*

(a) Pour les candidats de langue française:
RUSSO.
FÉNÉLON: Traité de l'Existence de Dieu.
PASCAL: Pensées.

Monsabré: Oeuvre de Dieu.
(b) For English-speaking students:
Russo.
Rickaby: Metaphysics—Modern Errors.
Maher: Psychology—Modern Errors.

7. (a) Pour les candidats de langue française:
Histoire de la Philosophie.
Valet: (Première et Deuxieme Partie).

(b) For English-speaking students:
History of Philosophy.
Turner. (Ancient and Scholastic Periods.)

8. (a) Pour les candidats de langue française:
Histoire de la Philosophie.
Valet (Troisième Partie).
(b) For English-speaking students:
History of Philosophy.
Turner. (Modern Period.)

9. (a) Pour les candidats de langue française:
Economie Politique.
Hervé-Bazin: Traité d'Économie Politique.
Molinari: Questions Économiques.
Cathrein: Le Socialisme.
(b) For English-speaking students:
Political Economy.
Devas: Political Economy.
Preuss: Fallacy of Socialism.

10. (a) Pour les candidats de langue française:
Chimie.
Bazin: Chimie.
(b) For English-speaking students:
Chemistry.
Remsen: Chemistry.

11. (a) Pour les candidats de langue française:
Physique.
Bazin: Physique.
(b) For English-speaking students:
Physics.
Gage: Physics.

HISTORY.

Instruction in the History of the First and Second Years is given only in the affiliated Colleges; instruction in that of the Third and Fourth Years (both General Course and Special Courses) is given in the University.

1. Wolfson's "Essentials in Ancient History" (pp. 57-417).

2. Abbé P. Gagnol: Histoire de la Grèce Ancienne," et "Histoire Romaine."

3. Adams: European History" (The Macmillan Co.), pp. 173-558;

Or Adams: "Mediæval and Modern History" (The Macmillan Co.), pp. 73-458.

4. Jean Moeller: "Histoire du Moyen-Age," "Histoire Moderne," et "Histoire Contemporaine."

For remaining courses see under University Department of Instruction in History, page 112.

POLITICAL ECONOMY.

Instruction in the Political Economy of the General Course is given both in the affiliated Colleges and in the University; instruction in Political Economy of the Special Courses is given only in the University.

1. (a) J. S. Mill: Principles of Political Economy (Ashley's Edition), Books I. to III.; together with
   C. F. Bastable: Theory of International Trade.
   (b) W. Cunningham: Growth of English Industry and Commerce, Vol. I. (Early and Middle Ages.

2. (a) J. S. Mill: Principles of Political Economy (Ashley's Edition), Book V.
   J. S. Nicholson: Principles of Political Economy, Vol. III., Book V.

E. R. A. SELIGMAN: Shifting and Incidence of Taxation.
(b) W. CUNNINGHAM: Growth of English Industry and Commerce, Vol. II., Part I. (Modern Times).

3. *Economie Politique.*
HERVÉ-BAZIN: Traité d'Economie Politique.
Conférences sur la constitution Britannique.

For remaining Courses see under University Department of Instruction in Political Economy, page 116.

MATHEMATICS.

Instruction in the Mathematics of the First Year is given only in the affiliated Colleges. The University provides instruction in Mathematics of the Second, Third and Fourth Years.

1. *Geometry.*
Baker's Geometry for Schools, Book V., and propositions 13, 14, 15, 18, 19 and 20 in appendix.
In demonstrating a proposition whose proof is given in the prescribed text, no use shall be made of a proposition which in the said text follows the required proposition.
Analytic Geometry of point, line and circle for rectangular axes. (Baker's Analytic Geometry for Beginners.)

2. *Algebra.*
Hall and Knight's Elementary Algebra, Chapters XXX., XXXI., XXXVI.-XXXIX., XLII., XLIV.

3. *Trigonometry.*
Hall and Knight, Chapters I.-XVIII., inclusive, as far as page 207. No questions will be set involving a knowledge of circular measure.

In the demonstration of theorems the starting point shall be the definitions given in the prescribed texts.

For remaining Courses see under University Department of Instruction in Mathematics, page 120.

PHYSICS.

For details of courses see under University Department of Instruction in Physics, page 126.

BOTANY.

For details of courses see under University Department of Instruction in Botany, page 130.

GEOLOGY AND MINERALOGY.

For details of courses see under University Department of Instruction in Geology and Mineralogy, page 133.

CHEMISTRY.

For details of courses see under University Department of Instruction in Chemistry, page 138.

PHYSIOLOGY.

For details of courses see under University Department of Instruction in Physiology, page 143.

ZOOLOGY.

For details of courses see under University Department of Instruction in Zoology, page 150.

University Departments of Instruction in Arts

DEPARTMENT OF ENGLISH.

ALEXANDER W. CRAWFORD, M.A., PH.D........ *Professor*

The University at present offers instruction in the English of the Third and Fourth Years in Arts only; that of the First and Second Years is provided for by the affiliated Colleges.

The courses in this department consist of prescribed selections from standard English literature and of required readings in literary history for concurrent study by the student. The content of the latter will enter into the examination. The lectures will treat of the authors and the literary history of periods covered. The writing of essays is considered part of the class work of the students.

THIRD YEAR—ARTS.

(NOTE.—Courses 1, 2, 3, 4 are taken by students of the Course in Modern Languages, the Course in English and History and the Course in Political Economy and English. Courses 3 and 4 only are taken by students of the General Course.)

1. *Chaucer.*

GEOFFREY CHAUCER—

The Prologue to the Canterbury Tales.
The Knight's Tale.
(One volume, edited by Morris & Skeat. Clarendon Press.)

Required reading—

CHAUCER, by A. W. Pollard. (Macmillan.)
A Short History of English Literature, by GEORGE SAINTSBURY. Book III., pp. 115-156. (Macmillan.)

2. *The Ballad and Spenser.*

(a) The Ballad—

The selections contained in the Ballad Book, edited by Katherine Lee Bates. (Boston, Sibley & Co.)

(b) EDMUND SPENSER—

Astrophel.
The Faerie Queene, Book I.
Epithalamion. (Works of Spenser, Globe edition, Macmillan.)

Required reading—

- Chapter on "Ballads;" by F. B. GUMMERE, in the Cambridge History of English Literature, Vol. II., ch. XVII., pp. 395-418.
- Spenser (English Men of Letters), by DEAN CHURCH.
- A Short History of English Literature, Books IV.-V. (pp. 157-311), by SAINTSBURY.

3. *Shakespeare.*

WILLIAM SHAKESPEARE—

- Romeo and Juliet.
- As You Like It.
- King Lear.
- Antony and Cleopatra.

Required reading—

- A Life of William Shakespeare, by SIDNEY LEE (Macmillan.)
- A Short History of English Literature, by SAINTSBURY. Book VI., pp. 313-389.

4. *Milton and Gray.*

(a) JOHN MILTON—

- The Sonnets.
- Comus.
- Paradise Lost. Books I., II., III.
- Prose of Milton (pp. 1-129), edited by Richard Garnett (Walter Scott.)

(b) THOMAS GRAY—

- On a Distant Prospect of Eton College.
- Hymn to Adversity.
- Elegy Written in a Country Churchyard.
- The Progress of Poesy.

Required reading—

- Milton (English Men of Letters), by MARK PATTISON.
- Gray (English Men of Letters), by EDMUND GOSSE.
- A Short History of English Literature, by SAINTSBURY. Books VII., VIII., IX., pp. 391-652.

FOURTH YEAR—ARTS.

(NOTE.—Courses 1, 2, 3 and 4 are taken by students of the Course in Modern Languages, the Course in English and History and the Course in Political Economy and English. Courses 2 and 4 only are taken by students of the General Course.)

1. *Wordsworth and Coleridge.*

(a) WILLIAM WORDSWORTH—

We Are Seven, Lucy Gray, The Pet Lamb, Ruth, Hart-Leap Well, The Affliction of Margaret, The Leech Gatherer, The Brothers, My Heart Leaps Up, To the Daisy, Three Years She Grew in Sun and Shower, To the Cuckoo, She Was a Phantom of Delight, To a Highland Girl, Stepping Westward, The Solitary Reaper, Ode on the Intimations of Immortality, Influence of Natural Objects, Lines Composed a Few Miles Above Tintern Abbey, The French Revolution (as it appeared to enthusiasts at its commencement), Nutting, To Mary Wordsworth. (Poems of Wordsworth, edited by Matthew Arnold, "Golden Treasury Series." Macmillan.)

(b) SAMUEL TAYLOR COLERIDGE—

The Golden Book of Coleridge, Parts II.-III. (pp. 95-by Stopford A. Brooke. (J. M. Dent & Co.)

Required reading—

"Preface" to Poems of Wordsworth, by MATTHEW ARNOLD.

Wordsworth (English Men of Letters), by F. W. H. MEYERS.

Coleridge (English Men of Letters), by H. D. TRAILL.

A Short History of English Literature, by SAINTSBURY. Book X., pp. 653-726.

2. *Shelley and Tennyson.*

(a) PERCY BYSSHE SHELLEY—

Lines Written Among the Euganean Hills, Hymn to Intellectual Beauty, Ode to the West Wind, The Sensitive Plant, The Cloud, To a Skylark, Ode to Liberty, Epipsychidion, Adonais.

(b) ALFRED, LORD TENNYSON—

The Lady of Shallott, Sir Galahad, St. Agnes' Eve, The Palace of Art, The Vision of Sin, In Memoriam. The following Idylls of the King: (1) The Coming of Arthur, (2) Lancelot and Elaine, (3) The Holy Grail, (4) The Last Tournament, (5) Guinevere, (6) The Passing of Arthur.

Required reading—

Shelley (English Men of Letters), by J. A. SYMONDS.

The "Introduction" in Tennyson, His Art and Relation to Modern Life, by STOPFORD A. BROOKE, pp. 7-52. (Isbister.)

3. *Browning*—

ROBERT BROWNING—

My Last Duchess, The Flight of the Duchess, The Lost Leader, The Last Ride Together, By the Fireside, Pictor Ignotus, Fra Lippo Lippi, Andrea del Sarto, The Bishop Orders His Tomb at St. Praxed's, A Toccata of Galuppi's, Abt Vogler, Prospice, A Grammarian's Funeral, An Epistle Containing the Strange Medical Experience of Karshish, the Arab Physician, Caliban Upon Setebos, Rabbi Ben Ezra, Confessions, In a Balcony.

Required reading—

Robert Browning (Great Writers), by WILLIAM SHARP.

4. *Nineteenth Century Prose.*

(a) GEORGE ELIOT: Adam Bede.

(b) WILLIAM MAKEPIECE THACKERAY: Henry Esmond.

(c) JOHN RUSKIN: Unto This Last, The Crown of Wild Olive.

Required reading—

George Eliot (English Men of Letters), by LESLIE STEPHEN.

Thackeray (English Men of Letters), by ANTHONY TROLLOPE.

Ruskin (English Men of Letters) by FREDERICK HARRISON.

A Short History of English Literature, by SAINTSBURY. Book XI., pp. 727-797.

EXTENSION COURSES.

For Extension Courses in English Literature, given by Professor Crawford, see page 212.

FIRST YEAR—ENGINEERING.

ENGLISH—Lectures, two hours per week.

Rhetoric and Composition—A practical course in writing based on a study of rhetorical principles and of prose masterpieces. Lectures and text-book study of the chief qualities of good composition, but with emphasis on practice in writing, including essays (chiefly exposition), reports, letters, etc.

Text-book: "English Composition in Theory and Practice," by H. S. Canby and others (The Macmillan Co.).

Examination—

One paper on the prose selections in the text-book.

One paper on composition, including (a) rhetorical principles; (b) essay based on subject given; (c) compiling of letter or report from data supplied.

DEPARTMENT OF HISTORY.

CHESTER MARTIN, M.A. .... *Professor*
.... *Lecturer*

The various periods to be taken up in the two years of the Special Course in History will be covered by regular lectures, supplemented by tutorial work with small groups of students. These groups will prepare essays twice a week to be read and discussed with the Professor in charge. The subjects of the essays will cover as far as possible the chief problems of the period under consideration.

THIRD YEAR. SPECIAL COURSE.

The courses for the year 1911-12 will be as follows:

1. The Third Year class will cover British Political and Constitutional History from the Roman Period to the Reform

Bill, with a few special lectures and essays on some of the chief problems of the present time.

A. For the Political History of the period, students will be expected to have a reading knowledge of Green's "Short History of the English People," or of York-Powell and Tout's small "History of England." For the actual work of the session, however, they will be referred to less elementary books on special subjects and periods, such, for instance, as Freeman's "Norman Conquest," Vinogradoff's "Manor and Villeinage in England," Gardiner's "History of England, 1603-1642, etc.," Ranke's "History of England, Principally in the Seventeenth Century," Seeley's "Expansion of England" and "Growth of British Policy," the "Political History of England" Series, edited by Poole (Longmans, Green & Co.), and the six-volume work edited by Oman (Methuen & Co.). Students of the Third Year would do well during the summer vacation to read Davis' "England under the Normans and Angevins," in the Methuen series, and Fisher's "Political History of England, 1485-1547," in the Longmans series, in connection with Green or York-Powell and Tout.

B. In the study of the Constitutional History of the period, special emphasis will be placed upon the evolution of principles of parliamentary representation and upon the development and centralization of law and of the administration of justice. The documentary ground work for lectures and essays will be found in Stubb's "Select Charters," Stubb's "Constitutional History of England, Prothero's "Statutes and Constitutional Documents, 1559-1625," Gardiner's "Constitutional Documents of the Puritan Revolution, 1628-1660," Robertson's "Select Statutes, Cases and Documents, 1660-1832," with "Supplement 1832-1894," and Dicey's "Law of the Constitution." These volumes will not be used as text-books in the ordinary sense of the word, except where definite references are given for special reading in the lectures or essay work of the year. Students should possess the first two, however, and should master the introductions of Prothero and of Gardiner.

FOURTH YEAR. SPECIAL COURSE.

2. The course for the Fourth Year will comprise a period of General History, and special phases in a period of Canadian History.

A. The period of General History for the year 1911-12 will be 1400 to 1600. The following books will be among those particularly recommended as sources of useful information for the period:

(i) "Cambridge Modern History," Vols. I., II. and III.

(ii.) Lavisse, "Histoire de France."

(iii.) Lodge, "Modern Europe."

(iv.) Kitchin, "History of France."

(v.) Lavisse et Rambaud, "Histoire Générale."

(vi.) Ranke, "Latin and Teutonic Nations."*

(vii.) Ranke, "History of the Reformation."

(viii.) Pastor, "History of the Popes."

(ix.) Creighton, "History of the Papacy."*

(x.) Armstrong, "Charles V."

(xi.) Armstrong, "Lorenzo de' Medici."*

(xii.) Horatio Brown, "Venice."

(xiii.) Johnson, "Europe in the Sixteenth Century."*

(xiv.) Machiavelli, "The Prince."

(xv.) Philippe de Comines, "Mémoires."

B. The period of Canadian History for the year 1911-12 will be 1763 to 1867. The following phases will be selected for special consideration: The period from the Cession to the Constitutional Act in detail; the war of 1812; the opening of the West; the Rebellion; Responsible Government; Confederation. The chief sources for the study of the period are:

(i.) Shortt and Doughty's "Selection of Constitutional Documents, 1763-1791." (Report of Canadian Archives, 1905.)

(ii.) Egerton and Grant's "Canadian Constitutional Development."

(iii.) Shortt and Doughty's "Selection of Constitutional Documents, 1791-1840" (in process of compilation).

Books of reference such as Lucas, Egerton, Garneau, McMullen, Kingsford, "The Makers of Canada" series, etc., will be recommended as the occasion for using them arises.

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* Books marked thus, Fourth Year students are advised to read during the summer vacation.

General Course.

3. Students of the General Course taking the subject of History will cover in outline, in the Third Year, British Constitutional History, and, in the Fourth Year, a period of General History (in 1911-1912, Europe in the Sixteenth Century). Below are a list of the text-books upon which the examinations will be based.

A. *Third Year*—

(i.) Bagehot: "English Constitution."

(ii.) Dicey: "Law of the Constitution."

(iii.) Anson: "Law and Customs of the Constitution."

Vol. I., Parliament.

Vol. II., Part I., Chapters 1 and 2, Prerogative and the Cabinet.

Part II., Chapter 5, Dominions and Dependencies of the Crown.

B. *Fourth Year*—

(i.) Johnson: "Europe in the Sixteenth Century."

(ii.) Ranke: "Latin and Teutonic Nations."

(iii.) Armstrong: "Lorenzo de' Medici."

(iv.) Horatio Brown: "Venice."

(v.) *Either* Creighton: "History of the Papacy," Vol. IV, Chapter 5 to Vol. V., Chapter 18;

Or Pastor: "History of the Popes," Vols V. and VI.

DEPARTMENT OF POLITICAL ECONOMY.

ARCH. BROWN CLARK, M.A. .... *Professor*
.... *Lecturer*

1. The course in Political Economy for students of the THIRD YEAR in the SPECIAL COURSES in Political Economy and History, Political Economy and English, and Political Economy and French and German, in 1911-1912, will be as follows:

The lectures will include a discussion of the leading principles of Political Economy, together with the chief landmarks in the history of Economic Theory, and the outlines of Economic History—Mediæval.

A. ECONOMIC THEORY.

1. *Introductory.*—Preliminary Definition of Political Economy; Wealth—Explication of the Conception; Character and Scope of the Science; Methods of Investigation; Economic Laws; Relation of Economic Science to Practice; Departments of the Science, and Principles of Classification.

2. *Consumption.*—Human Wants in Relation to Activities; Law of Diminishing Utility; Total and Marginal Utility; Influence of the Conception of Marginal Utility on the Development of Economic Theory; Law of Demand; Elasticity of Demand; Changes in Demand; Present and Future Utilities; Luxury; Saving *versus* Spending; Family Budgets; Value and Utility; Theory of Consumers' Surplus.

3. *Production.*—Its Essence; Its Relation to Consumption; History of the Theory of Production—the Physiocrats; Material and Immaterial Production; Agents of Production—Nature, Labor, Capital; Causes Determining the Productiveness of Industry: (1) Constituents of Natural Environment, (2) Causes Affecting Efficiency of Labor (a) Individual Efficiency, (b) Organization of Industry; Localization of Industry; Production on a Large and on a Small Scale; Joint-Stock Companies; Laws of Diminishing and Increasing Return; Principle of Population; Growth of Material Capital.

4. *Distribution.*—Meaning of the Term; Character of the Laws of Distribution; Private Property in its Economic As-

pects; Property in Land; Socialism; The Three Species of Income— (1) Wages: *Real* and *Nominal* Wages, The General Rate of Wages, Historical Theories, Differences of Wages in Different Employments, Influence of Trade Unions on Wages; (2) Interest—Its Nature and Determining Causes; Profits—Analysis, How far a Tendency to Equality of Profits; (3) Rent—Uses of the Term, Economic Rent: The Ricardian Theory.

5. *Exchange.*—Theory of Value—Value and Price; Laws of Demand and Supply; Market Value; Normal Value; Cost of Production; Relation of Rent to Value; Monopoly Value; Money—Its Functions; Standard and Token Money; Mint Price and Market Price of Gold; Gresham's Law; Money and Prices—The Quantity Theory; Inconvertible Paper Currency; Credit—Its Forms and Its Basis; Banking—Its Historical Development, Regulation of the Bank Note Issues, Deposit Banking, The Money Market, The Reserve, The Rate of Discount; The Foreign Exchanges; Commercial Crises; Theory of International Trade and International Values; Free Trade and Protection.

Historical Evolution of the Theory of International Trade: —The Mercantile System, Adam Smith and the System of Natural Liberty, The "Manchester School" and Free Trade, List and the Modern Protectionist Theory.

B. ECONOMIC HISTORY—(Mediæval).

The Scope and Method of Economic History and its relation to Economic Theory; The Village Community; The Manor; Transition from Natural to Money Economy and Decay of Serfdom; The Black Death; The Statutes of Laborers; The Peasant Revolt; The Economic Condition of the Laborer in the Fifteenth Century and Now; The Origin and Growth of the Poor Law.

The Mediæval Town; The Gild Merchant; The Craft-Gilds—growth and decay; The Usury Laws; Mediæval and Modern Prices—Just and Normal.

The Mediæval Tax System; Growth of Foreign Trade; Mediæval Protection; Origins of the Mercantile System; Foreign Trade Companies; History of English Currency.

Text Books:—In connection with, and in amplification of, the lectures, the student will be expected to read: H. R. Seager, "Brief Economics"; J. S. Mill, "Principles of Political

Economy," Ashley's edition, Books I. to III. (the parts referred to in the Lectures); Adam Smith, "Wealth of Nations," Book IV. (and other parts referred to in the Lectures), together with J. S. Nicholson, "A Project of Empire"; C. F. Bastable, "Theory of International Trade"; W. Cunningham, "Growth of English Industry and Commerce," Vol. I. (Early and Middle Ages).

Reference will also be made to Seebohm's "English Village Community"; Vinogradoff's "Growth of the Manor"; Marshall's "Principles of Economics"; Sidgwick's "Principles of Political Economy"; Nicholson's "Principles of Political Economy"; Bagehot's "Lombard Street"; Withers' "The Meaning of Money"; Clare's "Money-Market Primer and Key to the Exchanges"; and other works—all of which may be obtained from the Class Library.

Lecture hours: Monday to Friday, 11 o'clock to 12; Tuesdays and Thursdays, 12 o'clock to 1.

2. The course in Political Economy for students of the FOURTH YEAR in the SPECIAL COURSES in Political Economy and History, Political Economy and English, and Political Economy and French and German, in 1911-1912, will be as follows:—

A. ECONOMIC THEORY.

(1) A discussion of some of the more difficult problems in Economic Theory, and the History of Theory, not dealt with in Course I.

(2) A critical study of Marshall's treatment of Economic Theory.

(3) A Survey of Economic Progress.

(4) The Economic Functions of the State; Public Finance—Taxation and Public Expenditure.

B. ECONOMIC HISTORY—MODERN.

The Rise of Nationalities; The Elizabethan Regulation of Industry and Commerce; Seventeenth Century Monopolies and Modern Trusts; Agricultural Progress; The Industrial Revolution; The Factory System and Factory Legislation; Trade Unionism; Socialism.

British Foreign Trade Companies; Colonization and Colonial Policy, Fiscal and Financial Reforms of the Nineteenth Century; History of Banking and Currency.

Text Books:—In connection with the lectures, the student will be expected to read: Marshall, "Principles of Economics," Vol. I.; Nicholson, "Principles of Political Economy," Vol. III.; Adam Smith, "Wealth of Nations," Book V.; J. S. Mill, "Principles of Political Economy," Book V..; E. R. A. Seligman, "Shifting and Incidence of Taxation"; W. Cunningham, "Growth of English Industry and Commerce," Vol. II., Parts I. and II. (Modern Times).

Reference will also be made to Bastable's "Public Finance"; Sidgwick's "Principles of Political Economy" and "Elements of Politics"; Bosanquet's "Philosophical Theory of the State"; Webb's "History of Trade Unionism"; Jenks' "The Trust Problem"; G. L. Beer's "Origins of the British Colonial System"; Bogart's "Economic History of the United States": Maine's "Ancient Law," and other works—all of which may be obtained from the Class Library.

Lecture hours: Monday to Friday, 9 o'clock to 10; Mondays and Wednesdays, 10 o'clock to 11.

3. The text-books in Political Economy for students of the THIRD YEAR in the GENERAL COURSE are as follows:

A. ECONOMIC THEORY.

J. S. Mill, "Principles of Political Economy" (Ashley's edition). Books I. to III.; C. F. Bastable, "Theory of International Trade."

B. ECONOMIC HISTORY.

W. Cunningham, "Growth of English Industry and Commerce," Vol. I. (Early and Middle Ages).

Students of Political Economy in the General Course, Third Year, may take such lectures from among those given to students of Political Economy in the Special Courses, Third Year (Course 1), as apply to their own texts. Definite announcement of these will be made later.

4. The text-books in Political Economy for students of the FOURTH YEAR in the GENERAL COURSE are as follows:

A. ECONOMIC THEORY.

J. S. Nicholson, "Principles of Political Economy," Vol. III., Book V.; J. S. Mill, "Principles of Political Economy" (Ashler's edition), Book V.; E. R. A. Seligman, "Shifting and Incidence of Taxation."

B. ECONOMIC HISTORY.

W. Cunningham, "Growth of English History and Commerce," Vol. II., Part I. (Modern Times).

Students of Political Economy in the General Course, Fourth Year, may take such lectures from among those given to students of Political Economy in the Special Courses, Fourth Year (Course 2), as apply to their own texts. Definite announcement of these will be made later.

DEPARTMENT OF MATHEMATICS AND ASTRONOMY.

NEIL BRUCE MACLEAN, M.A.	*Professor*
LLOYD A. H. WARREN, M.A.	*Lecturer*

The instruction in the Department of Mathematics and Astronomy consists of a series of courses of lectures and class recitations. These lectures are illustrated by models and diagrams, while the courses in Astronomy are supplemented by lantern-slide projections and by practical work in the field with the Equatorial Telescope and with the Transit.

The instruction is conducted for the following classes of students:

(a) Students pursuing courses in Engineering.

(b) Students of the Second Year in Arts who select Mathematics as one of their optional subjects.

(c) Students of the Third and Fourth Years in Arts who desire to proceed to a degree by pursuing the prescribed course in Mathematics and Astronomy.

(d) Students who have elected one of the divisions of the Natural and Physical Science Course containing Mathematics or Astronomy or both.

(e) Students of the General Course in Arts who select Mathematics or Astronomy as one of their optional subjects in either the Third or Fourth years of their course.

The Department is provided with a considerable number of models for illustrating the work in Geometry, Conic Sections and Spherical Trigonometry.

For the work in Astronomy there have been obtained a celestial globe, a slate globe, a 5-inch equatorial telescope and about four hundred lantern slides, made from negatives taken principally at the Yerkes and Lick Observatories. To these new ones are being added from time to time.

The substance of the lecture courses is embodied in the following schedule:

FIRST YEAR—ENGINEERING.

1. *Analytical Geometry*—An elementary course in Analytical Geometry of two dimensions, establishing the more important properties of the straight line, circle, parabola, ellipse and hyperbola. Baker's Analytical Geometry (cf. Course 13).
   Monday, Thursday (3—4)................*Professor MacLean*

2. *Algebra*—Binomial Theorem, logarithms, interest and annuities, exponential theorem, logarithmic series, undetermined coefficients, and partial fractions. Hall and Knight's Elementary Algebra, with selections from Hall and Knight's Higher Algebra.
   Mon. (9—10), Fri. (11—12),
   First Term .... *Professor MacLean*

3. *Solid Geometry*—An elementary course in synthetic solid geometry. Descriptive properties of lines and planes in space; the polyhedra, the cone, the cylinder and the sphere; areal relations among line segments of spatial figures; volumes, prismoidal formula. Dupuis' Solid Geometry to page 131 (cf. Course 12).
   Tue., Thur. (2—3), Second Term................*Mr. Warren*

4. *Mensuration*—The mensuration of plane and solid figures.
   Tue. (10—11), Second Term ....*Mr. Warren*

5. *Plane Trigonometry*—A general review of the elements of plane trigonometry, with applications to practical problems; inverse notation.
   Tue (10—11), Thur. (2—3), First Term....*Mr. Warren*

6. *Spherical Trigonometry*—Derivation of formulae; solution of the spherical triangle; inscribed and circumscribed circles; areas of spherical triangles and spherical polygons; applications to practical problems. Todhunter and Leathem's Spherical Trigonometry (cf. Course 17).
Mon. (9—10), Fri. (11—12).
Second Term ....*Professor MacLean*

SECOND YEAR—ENGINEERING.

7. *Differential and Integral Calculus*—An elementary course in differential and integral calculus, with practical applications; maxima and minima; areas; lengths of curves; surfaces and volumes; curvature; evolutes; centre of gravity; moments of inertia, etc. (cf. Course 20).
Mon. (10—11), Tue., Wed., Thur., Fri. (9—10).
.... *Mr. Warren*

ENGINEERING—THIRD YEAR (CIVIL)

8. *Practical Astronomy*—Systems of co-ordinates, the constellations, the telescope, the shape and density of the earth, Kepler's laws, the law of gravitation, tides, eclipses, time, the equation of time, the ephemeris, the Transit instrument, Bessel's formula, Mayer's formula, transformation of co-ordinates, determinations of latitude and longitude and of time, laying off of a meridian, refraction, aberration, parallax, practical work with the Transit.
First Term, Tue., Fri. (3—4); Second Term, Mon., Wed. (11—12) .... *Professor MacLean*

ENGINEERING—THIRD YEAR (ELECTRICAL)

9. *Differential Equations*—An elementary course on the solution of simple differential equations, with practical applications to problems of mechanics, physics and electricity. Cohen's Differential Equations. (cf. Course 23).
Wed., Fri. (9—10), First Term........*Professor MacLean*

ARTS—SECOND YEAR.

10. *Algebra*—Hall and Knight's Higher Algebra, Chapters 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 13, 14, 17, 18, 22, 23.
Tues., Thur. (2—3), First Term.....*Professor MacLean*

11. *Plane Trigonometry*—Hall and Knight's Plane Trigonometry, from page 220 to end of Chapter XXIII.
Mon., Thur. (3—4), First Term..................*Mr. Warren*

12. *Solid Geometry*—An elementary course in synthetic solid geometry. Descriptive properties of lines and planes in space; the polyhedra, the cone, the cylinder, the sphere, areal relations among line segments of spatial figures; volumes; prismoidal formula. Dupuis' Solid Geometry, to page 131.
Tue., Thur. (2—3), Second Term............. *Mr. Warren*

13. *Analytical Geometry*—A continuation of the course in the First Year, establishing the more important properties of the circle, parabola, ellipse and hyperbola. Baker's Analytical Geometry, Chapters 6—9, inclusive.
Mon., Thur. (3—4). Second Term..*Professor MacLean*

(N.B.—*Two papers will be set*—one on Algebra and Trigonometry, and one on Geometry.)

ARTS—THIRD YEAR.

14. *Algebra*—A continuation of Course 10. Hall and Knight's Higher Algebra, Chapters 19—26, inclusive, Chapter 29.
Tue., Wed. (10—11), First Term....*Professor MacLean*

15. *Determinants and Theory of Equations*—A study of the formation and uses of determinants and operations on matrices; the elements of the theory of equations, solutions of the cubic and biquadratic, etc. Hall and Knight's Higher Algebra, Chapters 33—35, inclusive.

References—Weld's Determinants, Burnside and Panton's Theory of Equations.

Tue., Wed. (10—11), Second Term..*Professor MacLean*

16. *Plane Trigonometry*—An advanced course in trigonometry, Demoivre's theorem; complex quantities; functions expressed as series; summation of series; factorization, etc. Todhunter and Hogg's Trigonometry, Chapters 19—24, inclusive.

References—Locke's Higher Trigonometry, Hobson's Trigonometry.

Tue. (11—12), Thur. (2—3).
Second Term .... *Professor MacLean*

17. *Spherical Trigonometry*—Derivation of formulæ, solution of the spherical triangle; applications. Todhunter and Leathem's Spherical Trigonometry.
Mon. (9—10), Fri. (11—12).
Second Term .... *Professor MacLean*

18. *Analytical Geometry*—An advanced course in Analytical Plane Geometry, followed by an elementary course in Analytical Solid Geometry.

References—Baker's Analytical Geometry, C. Smith's Analytical Plane Geometry, C. Smith's Analytical Solid Geometry.

Mon., Tue., Wed. (11—12), Mon. (2—3).
First Term ....*Professor MacLean*

19. *Modern Synthetic Geometry, Plane and Solid.*
(a) A modern treatment of the principles of plane geometry. Selections from Parts I. and II., together with Parts III., IV. and V. of Dupuis' Plane Geometry.
(b) A continuation of Course 12 on solid geometry, with a short introduction to perspective, projection, geometrical conics, spherical geometry. Dupuis' Solid Geometry.
References—Durell, Lachlan.
First Term, Mon. (9—10), Fri. (11—12;
Second Term, Mon., Wed. (11—12)....*Mr. Warren*

20. *Differential and Integral Calculus.*
References—Murray, Osgoode, Edwards, Williamson.
Hours same as Course 7....................................*Mr. Warren*

ARTS—FOURTH YEAR.

21. *Differential Calculus*—An advanced course. Edwards' Differential Calculus.
References—Murray, Williamson.
First Term, Mon., Wed. (11—12); Second Term,
Mon. (9—10), Fri. (11—12) ....*Mr. Warren*

22. *Integral Calculus*—An advanced course.
References—Williamson, Todhunter, Osgoode, Townsend and Goodenough.
Wed. (2—3), Fri. (10—11) ....*Mr. Warren*

23. *Differential Equations*—A study of the more common types of ordinary differential equations, with emphasis

on geometrical interpretations; applications to geometry and mechanics. Cohen's Differential Equations.

References—Murray, Johnson, Forsyth.

Wed., Fri. (9—10) ....*Professor MacLean*

24. *Statics*—A study of the principles and laws of Statics and their derivation. Applications of the Calculus to the theory of Statics. Special attention paid to the solving of problems. Jean's Theoretical Mechanics, Chapters I. to VII., and selections from Todhunter's Analytical Statics and Bowser's Analytical Mechanics.

Wed. (10—11), Fri. (2—3)...........................*Mr. Warren*

25. *Dynamics*—Lectures based on Tait and Steele's Dynamics of a Particle, Chapters 1—5, inclusive, and selections from Chapters 6, 7, 9.

Tue., Thur. (9—10), Second Term..*Professor MacLean*

26. *Finite Differences*—A course of lectures on the principles of the Calculus of Finite Differences, and the Theory of Operators.

References—Boole's Finite Differences, Institute of Actuaries Text Book, Part II.

Two hours per week, First Term..................*Mr. Warren*

(To be given for the first time in Session 1912-13.)

27. *Theory of Probability and Life Contingencies*—A course of lectures on the mathematical theory of probability, and on the elements of the Theory of Life Annuities, Life Assurances and Life Contingencies.

References—Hall and Knight's Higher Algebra, Moir's Life Assurance Primer; King, Theory of Finance; The Institute of Actuaries' Text Book, Parts I. and II.

Two hours per week, Second Term..*Professor MacLean*

(To be given for the first time in Session 1912-13.)

28. *Descriptive Astronomy*—This course will give an account of the leading facts of Astronomy and the methods by which these facts are obtained. The lectures will be fully illustrated by means of models, diagrams and lantern projections.

Reference Books—Moulton, "Introduction to Astronomy"; Young, "Elements of Astronomy"; Young, "General Astronomy"; Barlow and Bryan, "Mathematical Astronomy"; Godfray, "A Treatise on Astronomy"; Campbell, "Elements of Practical Astronomy"; Chauvenet, "Astronomy."

Tue., Fri. (3—4) ....*Professor MacLean*

DEPARTMENT OF PHYSICS

Frank Allen, M.A., Ph.D., F.R.S.C.	*Professor*
R. K. McClung, M.A., D.Sc., F.R.S.C.	*Lecturer*
T. A. Neelin, B.A.	*Demonstrator*

General Course I. *Professor Allen.*

To be taken by students of the First Year in Medicine (compulsory), students of the First Year in Arts (optional), and students of the Third or Fourth Years in Arts in the General Course (optional).

(NOTE—Students intending to take any of the divisions of the Special Course in Natural and Physical Science or the Special Course in Mathematics are strongly urged to elect this course in their First Year.)

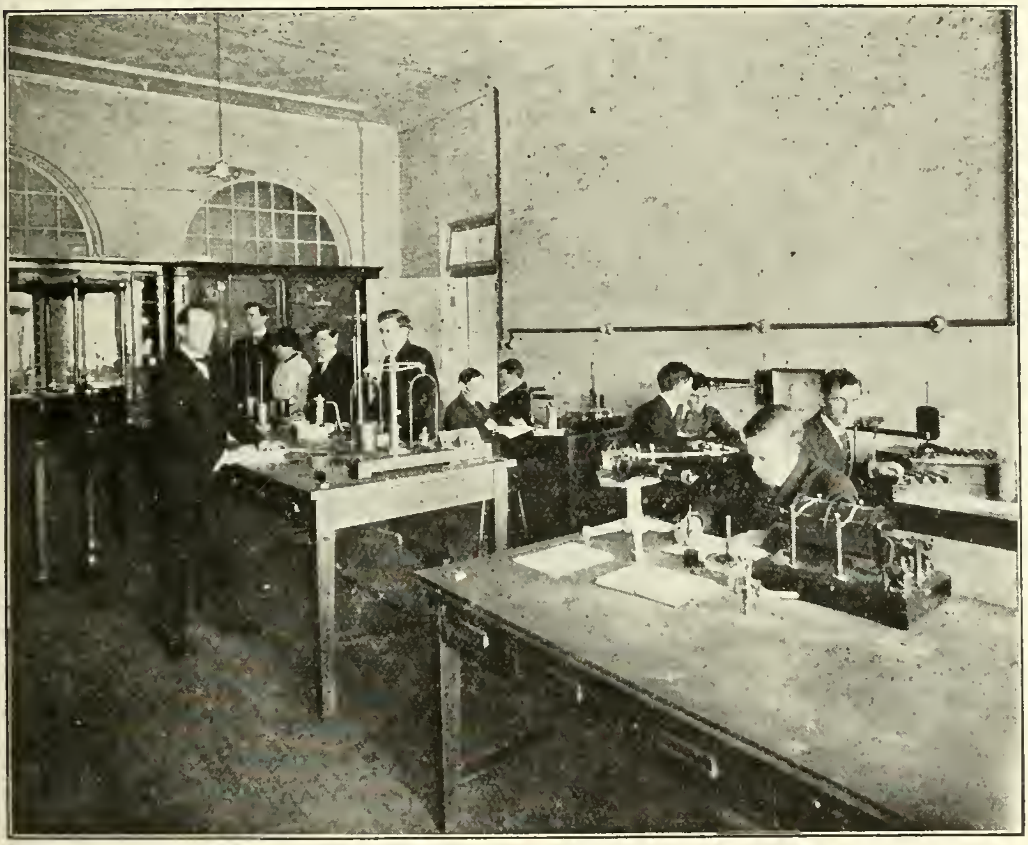
In this course the principles of Physics will be discussed with experimental illustrations in such a way that no Mathematics higher than Plane Trigonometry will be required.

Monday, Wednesday, Friday, 2 to 3 p.m.

Part I.

Mechanics and Hydrostatics—

Velocity, acceleration, Newton's Laws of Motion, composition and resolution of vectors, systems of units, force, gravitation, mass, weight, momentum, equilibrium, centre of gravity, simple harmonic motion, the pendulum, friction, motion of rotation, the gyroscope, energy, work, machines, conservation of energy, properties and constitution of matter.



PHYSICS LABORATORY

Pressure at a point, transmission of pressure, density, barometer, Boyle's Law, pumps, syphon, surface tension, capillarity, osmosis, diffusion, kinetic theory of gases.

Heat—

Theory of heat, production of heat, temperature, expansion, thermometry, calorimetry, specific heat, fusion, vaporization, regelation, hygrometry, Charles' Law, spheroidal state, critical state, liquefaction of gases, convection, conduction, radiation, radiometer, First Law of Thermodynamics, mechanical equivalent of heat, heat engines, theory of sun's heat, dissipation of heat, production of heat by radioactivity.

Part II.

Magnetism—

Laws of magnetic force, lines of force, magnetic induction, molecular theory of magnetism, diamagnetism, paramagnetism, terrestrial magnetism.

Electricity—

Laws of electrostatics, characteristics of electric charges, induced charges, influence machines, electroscope, Leyden jar, condenser, electric current, batteries, electromotive force, potential, resistance, Ohm's Law, galvanometers, electrolysis, Joule's Law, Ampere's Laws, induced currents, thermo-electricity, electro-magnetism, telegraph, telephone, electric light, electrical machinery, alternating currents, transformer, induction coil, electric waves, radiotelegraphy, discharge of electricity through gases, cathode rays, Roentgen rays, radio-activity.

Sound—

Production of sound, velocity, reflection, refraction, pitch, intensity, quality, musical scale, resonance, interference, beats, vibration of plates, rods, strings and air columns, musical instruments, perception of sound by the ear, consonance, dissonance.

Light—

Theories of light, velocity, reflection, refraction, photometry, dispersion, the spectrum, spectroscopy, absorption of light, color, fluorescence, phosphorescence, opalescence, interference, diffraction, double refraction, polarization, optical instruments, the eye, color vision, color blindness, effect of magnetism on light.

COURSE 2. *Professor Allen.*

Mechanics, Heat and Sound.

In this course special attention is given to the derivation of formulae and the solving of problems.

To be taken by students of the Third Year in Arts in the course in Mathematics and in any division of the Course in Natural and Physical Science.

Monday and Wednesday, 11 to 12 o'clock.

COURSE 3. *Professor Allen.*

Electricity, Magnetism and Light.

This course is similar to Course 2.

To be taken by students of the Fourth Year in Arts in the course in Mathematics and in any division of the course in Natural and Physical Science.

Monday and Wednesday, 10 to 11 o'clock.

COURSE 4. *Dr. McClung.*

Mechanics, Heat and Sound.

This course is designed especially for Engineering students. The lectures involve the main principles of Mechanics, Heat and Sound, with special attention to their practical applications and to the solving of problems.

Students are to perform in the laboratory a series of experiments as in Course 6.

To be taken by students of the First Year in Engineering.

Two hours per week. Time to be arranged.

COURSE 5. *Dr. McClung.*

Electricity, Magnetism and Light.

This course is similar to Course 4.

Students will perform in the laboratory a series of experiments as in Course 7.

To be taken by students of the Second Year in Engineering. Two hours per week. Time to be arranged.

(NOTE—During the session of 1911-12 this Course will be taken also by students of the Third and Fourth Years in Engineering.)

COURSE 6.

Professor Allen, Dr. McClung, Mr. Neelin.

Laboratory Course in Mechanics, Heat and Sound.

The Theory and Methods of Physical Measurements. Students are to perform an extensive series of experiments, and the results of each experiment are to be presented in a suitable report. Whenever possible, graphical methods are to be used. It is highly desirable that students should have an elementary knowledge of Analytical Geometry and Calculus.

To be taken by students of the Third Year in Arts in the course in Mathematics and in any division of the course in Natural and Physical Science and by students of the First Year in Engineering. Each student will take one period per week.

Tuesday and Thursday, 10 to 1 o'clock.

COURSE 7.

Professor Allen, Dr. McClung, Mr. Neelin.

Laboratory Course in Electricity, Magnetism and Light.

Similar to Course 6.

To be taken by students of the Fourth Year in Arts in the course in Mathematics and in any of the divisions of the course in Natural and Physical Science, and by students of the Second Year in Engineering. Each student will take one period per week.

Tuesday and Thursday, 10 to 1 o'clock.

(NOTE—During the session of 1911-12 this Course will be taken also by students of the Third and Fourth Years in Engineering.)

COURSE 8. *Dr. McClung.*

Electrical Measurements.

This course comprises a more advanced study, both theoretical and practical, of electrical measurements, and is especially suited to students in Electrical Engineering. It will involve the use of electrical standards, quantitative measurements of capacity of condensers, self and mutual induction, magnetic induction and hysteresis, potentiometer measurements, high and low resistance and photometry.

To be taken by students of the Third Year in Electrical Engineering. Other students may take this course by special permission.

Time to be arranged.

Text-books—

Gage's Principles of Physics (Goodspeed).
A Text Book of Physics. Watson.
The Tutorial Physics.

DEPARTMENT OF BOTANY

A. H. REGINALD BULLER, B.Sc., Ph.D., D.Sc., F.R.S.C...*Professor*

COURSE 1.

This course is intended for students of the Second Year in Arts, and students of the Third Year in Arts in Divisions C or D of the course in Natural and Physical Science.

Lecture Days—Wednesdays and Fridays, at 3 p.m., throughout the session.

Laboratory—For students of the Third Year only—Thursdays, 10 to 12.

Classification of Objects—Comparison of living and nonliving matter, and of plants and animals.

The Morphology of the Seed; germination; the external morphology of the seedling; the physiology of germination; the general nature of the reserve food-stuffs: the relations of the seedling with external conditions and natural forces; the theory of irritability; growth to exhaustion, and the general conditions of active life and self-nutrition.

The general morphology of the Plant Body, and the principal modifications in form and distribution of the vegetable members, Root, Shoot and Leaf.

Protoplasm as the physical basis of life; the Cell, and its principal modifications for special purposes; development and distribution of the Tissues considered especially from a physiological standpoint.

The Leaf as a bio-anatomical study; epidermis; vascular bundles, ground-tissue, intercellular spaces.

The internal morphology of the Stem in its chief modifications; the results of cambial activity; the secondary protective tissues, Cork and Bark, the Root.

The Bud; the principal characteristics of increase in length in shoot and root.

The phenomena of climbing, and illustrations of special powers of movement.

The elementary facts in the Nutrition of the plant, including the nature and sources of the raw material of food, and the constitution of the soil; absorption and the transpiration current; the nature and functions of chlorophyll; the broad principles of metabolism, and the distribution, storage, and utilization of its products. Respiration.

Nutrition without chlorophyll, and special fermentative changes, illustrated by Yeast, Bacteria and Molds. Degrees of Parasitism in Flowering Plants. Insectivorous Plants.

Reproduction, asexual and sexual, further illustrated by Spirogyra, Vaucheria, Fucus and Agaricus. The primary divisions of the Vegetable Kingdom, viz.: Thallophyta, Bryophyta (illustrated by a moss plant), Pteridophyta (a fern plant), and Phanerogamia (flowering plants).

The general character and structure of the reproductive organs in Phanerogamia; pollination, and its methods; fertilization; the development of the seed and the fruit; seed protection and dispersal; the natural spread of plants, and its limitations.

The Flower, and its chief modifications in structural plan. Examples of Natural Orders.

COURSE 2.

This is a course of about 40 lectures to students of the Fourth Year in Arts in Divisions C and D of the course in Natural and Physical Science.

Lecture Days—Tuesdays and Thursdays, 9—10 a.m., throughout the session, and one other hour each week, to be arranged.

Laboratory—Tuesday, 10 a.m. to 1 p.m., and Friday, 11 a.m. to 1 p.m.

Life History and Classification of Plants.

The morphology and physiology of the chief groups of the Vegetable Kingdom and their most important subdivisions, viz.:

Thallophyta—Myxomycetes, Cyanophyceæ, Schizomycetes (Bacteria), Diatomaceæ, Conjugatæ, Chlorophyceæ, Phæophyceæ, Rhodophyceæ, Characeæ, Hyphomycetes.

Bryophyta—Hepaticæ, Musci.

Pteridophyta—Filices, Hydropterideæ, Equisetaceæ, Lycopodiaceæ, Selaginellaceæ.

Phanerogamia (Spermophyta)—Gymnospermæ, Angiospermæ.

Physiology—Students are expected to read up the general physiology of plants from text-books and special papers. The laboratory work will illustrate the processes of absorption of food materials, transpiration, carbon assimilation, respiration, growth, and movement. Practice will be given in the preparation of pure cultures of bacteria, yeast, moulds and other fungi.

Enzymes will be extracted and their action studied.

FIELD WORK.

At the beginning of the session there will be several excursions to the prairie, woods and river side for the purpose of studying the algæ, fungi, and flowering plants in relation to their environment. Students are recommended to acquaint themselves with the Canadian orders of flowering plants during the summer vacation.

THE LABORATORY.

The Laboratory—The Botanical Department includes the lecture theatre, professor's room, and the laboratory. The latter has one room devoted to plant physiology and one to morphology. There is also a small greenhouse and a dark room for photographing.

Research Work—The laboratory will be opened and encouragement given to any one desiring to carry on research on some botanical problem.

DEPARTMENT OF GEOLOGY AND MINERALOGY

Robert C. Wallace, M.A., B.Sc., Ph.D. .. . .*Lecturer*

Course 1.

Lecture-Course on General Geology.

Tuesdays and Thursdays, 2 to 3 p.m.

Materials of the Earth's Surface—An elementary study of the more commonly occurring minerals and rocks.

Dynamical Geology—The forces involved in geological processes; action of the atmosphere, land water, ground water, snow and ice, ocean and lakes; earthquakes and slow crustal movements; vulcanism.

Physiographical Geology—The main topographical features of the earth's surface, as resulting from dynamical agencies.

Tectonic or Structural Geology—The various structures shown by the rocks of the earth's crust; stratification, unconformity, jointing, faulting.

Economic Geology—Relation of soils to the rocks; water supply; ores and ore deposits, with special reference to Canadian resources.

Palaeontology—Fossils; their preservation in the rocks; interdependence of the fossil record and stratigraphy; contributions of the plant and animal kingdom.

Historical Geology—Hypotheses regarding origin of the earth; various stages in the earth's history; typical fossils; the historical geology of Canada.

The lectures will be illustrated by lantern projections, maps, models, and specimens of rocks, minerals and fossils.

This course will be taken by students of the Third or Fourth Years in Arts in the General Course (see pages 57 and 58), by students of the Third Year in Arts in Divisions A and C of the course in Natural and Physical Science (see pages 72 and 73), and by students of the Third Year in Civil Engineering (see page 158.)

Text-books—
  Chamberlin and Salisbury's Geology (Shorter Course); or
  Norton's Elements of Geology; with
  Miller's Minerals and How They Occur.

Books for reference—
  Chamberlin and Salisbury's Geology (3 Vols.).
  Young and Brock's Geology and Economic Minerals of Canada.

COURSE 2

CLASS OF PRACTICAL GEOLOGY.

Thursdays, 3 to 5 p.m.

Systematic examination of minerals by blowpipe and other dry way tests; identification of the commoner minerals and rocks; mapping of geological sections; study and identification of type fossils.

This course will be taken by students of the Third Year in Arts in Divisions A and C of the course in Natural and Physical Science (see pages 72 and 73), and by students of the Third Year in Civil Engineering (see page 158.)

COURSE 3.

LECTURE COURSE ON MINERALOGY AND CRYSTALLOGRAPHY.

Two hours a week.

Fundamental laws of Crystallography; crystallographical systems and classes (Groth's system); optical and other physical properties of crystals; isomorphism, polymorphism, morphotropism; classification of minerals according to chemical constitution; systematic study of minerals.

The lectures will be illustrated by crystal models, mineral specimens and optical demonstrations.

This course will be taken by students of the Third Year in Arts in Divisions A and C of the course in Natural and Physical Science.

Text-books—

Mier's Mineralogy; or
Dana's Text-book of Mineralogy; or
Miller's Minerals and How They Occur; with
Williams' Elements of Crystallography.

Book for reference—

Groth's Physikalische Krystallographie.

COURSE 4.

CLASS OF PRACTICAL MINERALOGY AND CRYSTALLOGRAPHY.

One hour a week.

Crystal drawing in stereographic projection and in parallel perspective; investigation of various crystal models; study and identification of crystalline and other physical properties of all important minerals.

This course will be taken by students of the Third Year in Arts in Divisions A and C of the course in Natural and Physical Science.

COURSE 5.

LECTURE-COURSE ON PETROLOGY.

Two hours a week.

The principle of the polarising microscope; the optical properties of minerals in thin section; the classification of rocks; detailed study of the members of the various families of rocks; magmatic differentiation; problems connected with the formation of igneous rocks.

The lectures will be illustrated by rock specimens and projections of rock sections.

This course will be taken by students of the Fourth Year in Arts in Divisions A and C of the course in Natural and Physical Science (see pages 72 and 73.)

Text-book—

Harker's Petrology for Students.

Books for reference—

Harker's Natural History of Igneous Rocks.
Rosenbusch's Microscopische Physiographie der Mineralien und Gesteinen.
Teall's British Petrography.

COURSE 6.

CLASS OF PRACTICAL PETROLOGY.

Five hours a week.

Use of polarising microscope; identification of the various rock-forming minerals under the microscope; study and identification of the main types of igneous, sedimentary and metamorphic rocks in thin sections and in hand specimens; preparation of thin rock sections; quantitative estimation of rocks.

This course will be taken by students of the Fourth Year in Arts in Divisions A and C of the course in Natural and Physical Science (see pages 72 and 73.)

COURSE 7.

LECTURE-COURSE ON ECONOMIC AND MINING GEOLOGY.

Three hours a week during the first term.

The nature and origin of ore deposits; geological structure of the chief ore-bearing regions in Canada; description of the principal ores of gold, platinum, silver, copper, iron, nickel, cobalt, tin, zinc, lead, manganese, and of other ores of economic interest; natural occurrence, methods of identification and evaluation of the more important ores; coal, building-stone, fertilisers; precious stones; mining processes.

The lectures will be illustrated by a collection of Canadian ores and by lantern projections.

This course will be taken by students of the Third Year in Civil Engineering (also during the session 1911-1912 by students of the Fourth Year in Civil Engineering), see page 158.

Text-books—

Miller's Minerals and How They Occur.

Young and Brock's Geology and Economic Minerals of Canada.

Books of reference—

Kemp's Ore Deposits of the United States and Canada.
Geikie's Structural and Field Geology.
Wilmott's Mineral Wealth of Canada.

GEOLOGICAL EXCURSIONS.

During October and November, excursions will be conducted on Saturdays to points of geological interest in the vicinity. As these excursions form an integral part of the class work, students are expected to attend regularly. The expenses will not exceed $5.00.

It is hoped that it will be found possible to arrange for advanced students a three or four days' excursion to a suitable locality for extended field work on the geology of the district.

DEPARTMENT OF CHEMISTRY.

MATTHEW A. PARKER, B.SC., F.C.S.	*Professor*
H. P. ARMES, B.SC, PH.D.	*Lecturer*
B. OLSON, B.A.	*Demonstrator*

COURSE 1.

ELEMENTARY INORGANIC CHEMISTRY.

Professor Parker.

This course is attended by students of the First Year in Medicine, students of the First Year in Engineering, students of the Second Year in Arts (Chemistry Option), and students of the Third Year in Arts in the course in Natural and Physical Science (who have not previously taken the course).

The course consists of about fifty lectures (two lectures per week) in addition to practical work (see under Chemical Laboratory). The following subjects are treated:—

Physical and chemical change; causes and conditions of chemical change; simple and compound substances; indestructibility of matter; laws of chemical combination; the atomic theory; atoms and molecules; Avogadro's hypothesis; equivalents, atomic and molecular weights; valency; symbols; formulæ and equations; calculations of volumes and weights; acids, bases and salts; electrolysis; solution; diffusion; dissociation; spectrum analysis; the periodic law; alloys.

The preparation and properties of the following elements and their more important compounds are dealt with:
Hydrogen; sodium, potassium; magnesium; calcium, strontium, barium; boron, aluminum; carbon, silicon, tin, lead; nitrogen, phosphorus, arsenic, antimony, bismuth, oxygen, sulphur; fluorine, chlorine, bromine, iodine; chromium, manganese; iron, cobalt, nickel; zinc, cadmium, mercury; copper, silver, gold; platinum.

A tutorial class (attendance on which is voluntary) is held in connection with this course. The hour of meeting is arranged to suit the convenience of students.

JUNIOR CHEMISTRY LABORATORY

Text-book recommended: For students in Medicine or Engineering or for students in Arts who do not intend to pursue the subject further, Smith's General Chemistry for Colleges. (Century Co.).

For students intending to enter the Special Course in Natural and Physical Science—Smith's General Inorganic Chemistry (Century Co.), or Holleman's Inorganic Chemistry.

COURSE 2.

GENERAL INORGANIC CHEMISTRY.

Professor Parker.

This short course of about forty lectures is arranged for students of the Third Year in the course in Natural and Physical Science. It will deal with some of the more general subjects which are barely touched on in the first course.

(NOTE—Students of the Third Year in the Course in Natural and Physical Science who have not attended the first course in Chemistry or its equivalent, will be required to attend the lectures of the first course in addition to those of the second course.)

COURSE 3.

ORGANIC CHEMISTRY.

Professor Parker.

This course is attended by Fourth Year students in Arts in the course in Natural and Physical Science. It consists of about forty lectures.

The first part of the course deals chiefly with the constitution and chemistry of the chief classes of compounds belonging to the fatty series, viz., saturated and unsaturated hydrocarbons; halogen derivatives of the hydrocarbons; monohydric alcohols; ethers; aldehydes and ketones; monobasic acids and their substitution products; esters; amines; polyhydric alcohols and their oxidation products; carbohydrates; cyanogen compounds, etc.

In the second part of the course the following subjects are considered: Constitutional differences between fatty and aromatic compounds; constitution and chemistry of benzene and its homologues; halogen, nitro-, and amino- derivatives of the hydrocarbons; diazo-, and azo- compounds; sulphonic acids; phenols, quinone; alcohols, aldehydes and ketones; aromatic acids and their derivatives; triphenyl methane and its derivatives; naphthalene, anthracene and their derivatives; pyridine, quinoline, and their derivatives; alkaloids; terpenes; stereoisomerism; physical properties of carbon compounds; determination of molecular weights.

Text-books recommended: Remsen's or Perkin and Kippings' Organic Chemistry.

Course 4.

Metallurgy.

Dr. Armes.

This course of about twenty lectures is arranged for Civil Engineering students of the Fourth Year, and as an optional course for Arts students taking Chemistry in the Fourth Year in the course in Natural and Physical Science. It will deal particularly with the metallurgy of iron and steel. The following subjects will be considered:

The ores of iron; preparation of ores; the manufacture and properties of cast iron and wrought iron; the manufacture and properties of steel; the Bessemer and Siemens processes; cementation; crucible steel. The electro-metallurgy of iron and steel; the heat treatment of steel; the metallography of iron and steel; the corrosion and preservation of iron and steel.

Text-books recommended: Greenwood and Sexton's "Iron" (Cassell & Co.); Greenwood and Sexton's "Steel" (Cassell & Co.).

Course 5.

Electro-Chemistry.

Dr. Armes.

This course of about twenty lectures is arranged for Electrical Engineering students of the Fourth Year, and as an optional course for Arts students taking Chemistry in the

Fourth Year in the course in Natural and Physical Science. It will deal with the following subjects:

The phenomena and laws of electrolysis; the theory of electrolytic dissociation; the mechanism of conduction of electricity through electrolytes; measurement of conductivity; electromotive force; the phenomena of polarisation; the technical applications of electro-chemical methods, the electrolytic separation and refining of metals, electro-thermic metallurgical processes.

Text-book recommended: Le Blanc's "Elements of Electro-Chemistry (Macmillan & Co.).

CHEMICAL LABORATORY.

Professor Parker, Dr. Armes and Mr. Olson.

Students in Natural and Physical Science of the Third Year are required to attend the Chemical Laboratory six hours a week; students in Natural and Physical Science taking Chemistry in the Fourth Year attend the Laboratory nine hours per week.

Arts students of the Second Year who take the Chemistry option are required to attend the Chemical Laboratory on Fridays from 3 to 5 p.m.

The laboratory work begun in the Second Year of the Arts course is continued in the Third and Fourth Years of the Natural Science course. It comprises a series of experiments illustrative of chemical theory, including practice in the fitting up of apparatus and the preparation of a number of common inorganic substances; the study of the qualitative methods of detecting and separating mineral substances; quantitative analysis, volumetric and gravimetric; preparation of inorganic and organic substances, etc.

Third Year students in the Course in Natural and Physical Science will use Ramsay's "Experimental Proofs of Chemical Theory for Beginners, and Third and Fourth Year students in the Course in Natural and Physical Science will use Henderson and Parker's "Introduction to Analytical Chemistry" (Blackie & Son).

Medical students of the First Year are required to attend the Chemical Laboratory from 3 to 5 on Tuesdays and Fridays. The work includes exercises on the preparation and properties of some of the common gases, etc., and a course of qualitative analysis and simple quantitative work.

Engineering students of the First Year attend the Chemical Laboratory from 9 to 12 on Wednesdays. This course includes preparation of several inorganic substances, and experiments introductory to qualitative and quantitative analysis.

Engineering students of the Second Year attend the Chemical Laboratory from 10 to 1 on Tuesdays. The course includes inorganic quantitative analysis; estimation of carbon, sulphur, phosphorus, etc., in iron and steel; quantitative analysis of cements; water analysis; coal analysis; determination of calorific value, etc.

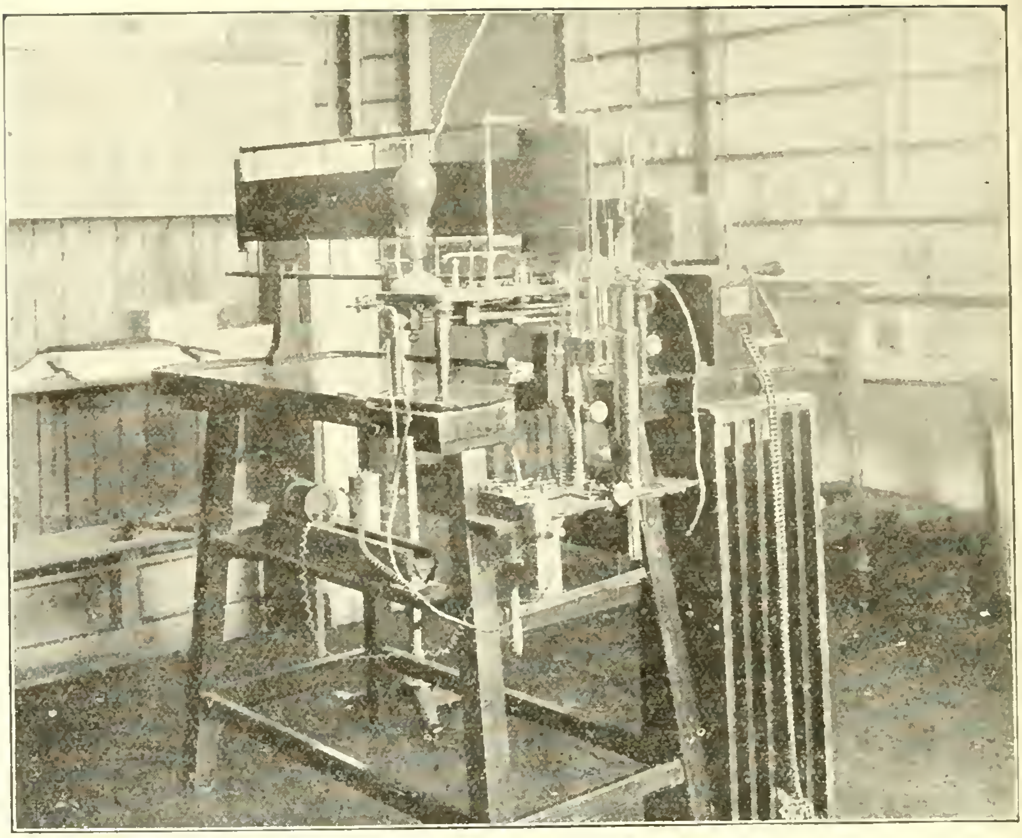
Special students may be enrolled for the purpose of carrying on such advanced work as the equipment permits of and special facilities will be given to those capable of carrying on research work.

Each student is supplied with such apparatus as may be required with the exception of platinum wire and foil, laboratory towel, etc., which he must provide for himself.

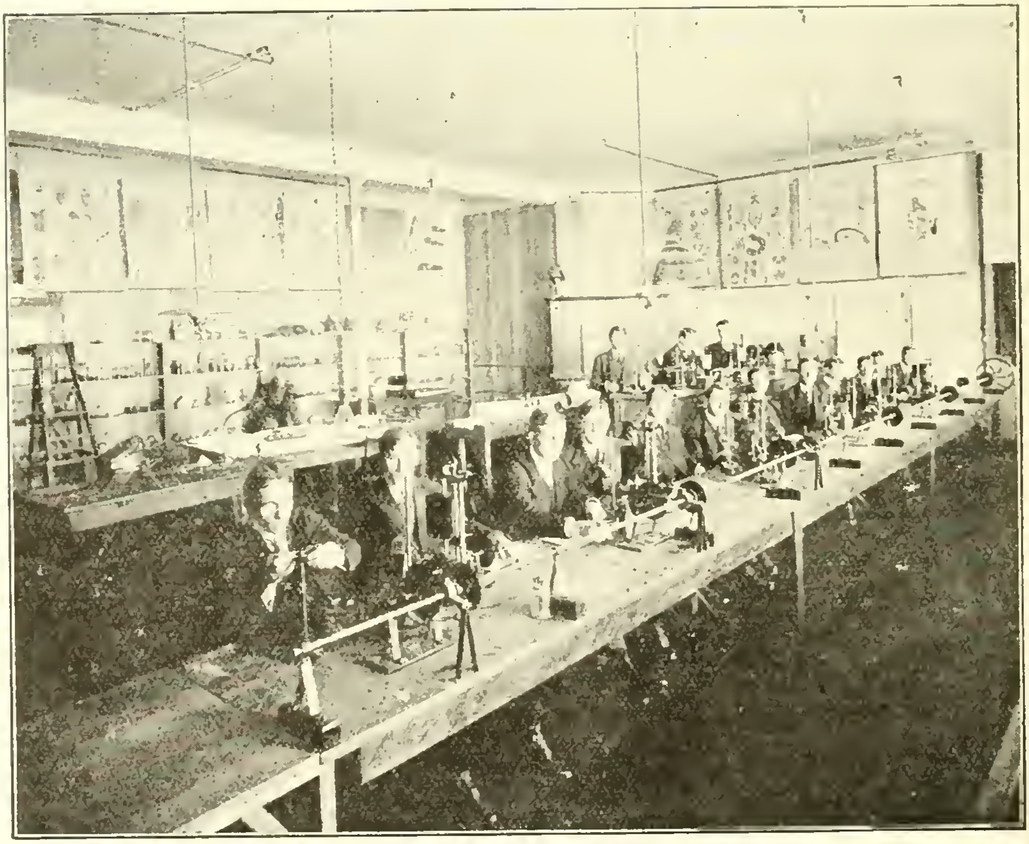
A deposit of five dollars is paid to the Registrar at the beginning of each session, and all breakages will be made good out of this. See page 245.

A record of all laboratory work must be kept in regulation report books. These are examined periodically during the session, and must be handed to the examiners in chemistry previous to the practical examination for the degree.

Attention is called to the regulation regarding practical work and reports on page 225.



LABORATORY FOR EXPERIMENTAL PHYSIOLOGY



LABORATORY FOR EXPERIMENTAL PHYSIOLOGY

DEPARTMENT OF PHYSIOLOGY.

Swale Vincent, M.D., D.Sc., M.R.C.S., L.R.C.P., F.R.SS.E. & C.	*Professor*
A. T. Cameron, M.A., B.Sc.	*Lecturer*
C. J. Triggerson, M.A., Ph.D.	*Demonstrator*
C. A. Baragar, B.A.	*Student Demonstrator*

The Physiology Department consists of a lecture theatre, a demonstration room for Experimental Physiology, a demonstration room for Physiological Histology, a preparation room for Physiological Chemistry, and students' laboratories for Chemical and Experimental Physiology. The following courses will be given in the Department:—

Physiology

An elementary course of about fifty lectures will be given, commencing in the month of November at the close of the course in Physiological Organic Chemistry.* This course must be taken by students of the Second Year in Medicine (see page 184), and by students of the Third Year in Arts in Division D of the course in Natural and Physical Science (see page 73.)

An advanced course of about seventy-five lectures will be given during the session. This course must be taken by students of the Third Year in Medicine (see page 184), and by students of the Fourth Year in Arts in Division D of the course in Natural and Physical Science (see page 73.)

(For synopsis of the Course in Physiological Organic Chemistry, see page 147.)

Course 1.—Elementary Lecture Course.

Professor Vincent.

Mondays, Wednesdays and Thursdays, 2 to 3 p.m.

(NOTE—These lectures will be illustrated as fully as possible by diagrams, models and experiments.)

1. *Structure and Physiology of the Cell, and of the Simple Tissues*—

General Physiology; general physiological methods: graphic records; the cell as an elementary organism; functions of nucleus and protoplasm; the vital phenomena of cells; anabolism, katabolism; manifestations of life; effects of external influences on cells (stimuli and irritability).

2. *General Chemistry of the Animal Body.*

3. *Physiology of Muscle*—

Apparatus for muscle-nerve experiments; contraction of muscle; gross change in form; microscopic change; simple twitch; effects of different conditions; isometric and isotonic contraction; work of muscle; muscle wave; summation of stimuli, tetanus; voluntary contraction; the muscle sound; physical and chemical properties of muscle; chemical and electrical changes in muscle during contraction, etc.

4 *Physiology of Nerve*—

Transmission of the nerve impulse; rate of transmission; effects of varying conditions; conductivity; electrotonus and Pflüger's Law; electrical changes during contraction; negative variation; etc.

5. *Digestion and Absorption*—

The digestive enzymes; the tissues and mechanisms of digestion; properties of saliva, gastric juice, bile, pancreatic juice, and the succus entericus; the foodstuffs and the changes which they undergo in digestion; nervous mechanism of secretion of the digestive juices; chemical mechanism of secretion; absorption by capillaries and by the villi; absorption in the large intestine; muscular mechanisms of digestion, mastication, deglutition, movements of intestine (peristaltic movements); vomiting; defaecation; the lacteals and the lymphatic system, and the part they play in absorption, etc.

6. *The Circulation of the Blood and Lymph*—

General physical and chemical properties of the blood; structure and physical properties of the blood vessels; blood pressure; rate of flow of blood; action of the heart and its valves; the heart sounds; pressure in the heart cavities during a cardiac cycle; the cardiac impulse; cardiograms; the pulse; the cardiac rhythm throughout vertebrates; functions of the cardiac ganglia; innervation of the heart; augmentation, inhibition; the work of the heart; innervation of the blood vessels; vaso-constriction; vaso-dilation; the capillary circulation; inflammation; variations in the quantity of blood and lymph; anaemia; plethora; lymph flow; etc.

7. *Respiration*—

General mechanics of respiration; muscular mechanisms; nervous mechanisms; types of breathing; changes in the air during respiration; circumstances influencing chemical changes; respiratory changes in the blood; oxygen and carbon dioxide in air and blood; spectroscopic study of arterial and venous blood; derivatives of hæmoglobin; respiratory changes in the lungs; respiratory changes in the tissues; apnæa, dyspnæa, asphyxia; eupnæa, hyperpnæa; etc.

8. *Excretion* (*Kidneys and Skin*)—

Structure and functions of the kidney; secretion of urine, neometrics; nature of tubular secretion; nature of glomerular secretion; chemistry of the urine, urea, uric acid, etc.; micturition, nervous mechanism; structure and functions of the skin; perspiration; etc.

COURSE 2.—ADVANCED LECTURE COURSE.

Professor Vincent.

Tuesdays and Fridays, 2 to 3 p.m., and Thursdays, 4.30 to 5.30 p.m.

(NOTE—These lectures will be illustrated as fully as possible by diagrams, models and experiments.)

1. *Metabolism*—

Fate of food stuffs in the organism; protein metabolism; carbohydrate metabolism; glycosuria, diabetes; starvation;

source of muscular energy; animal heat; nutrition and diet; classification of foods; etc.

2. *Internal Secretion and the Ductless Glands*—

General; internal secretion as applied to glands which have also an external secretion; internal secretion of the adrenals; Addison's disease; internal secretion of the thyroids and parathyroids; myxœdema, cretinism, Graves' disease; internal secretion of the pituitary body; acromegaly; functions of thymus, spleen, hæmal glands; etc.

3. *Structure and Functions of the Nervous System*—

General account of the nervous system; nerve cells and nerve fibres; the Neurone theory and modern criticisms; chemistry of nervous tissues; structure of the spinal cord; ascending and descending tracts and their cell connections; functions of the spinal cord, reflex actions; structure and functions of the medulla oblongata; nuclei of cranial nerves; structure and functions of the Pons Varolii and cerebellum; nuclei of the cranial nerves; structure and functions of the mesencephalon; structure and functions of the thalamencephalon; structure and functions of the cerebral hemispheres, the cerebral cortex, motor areas; localisation of functions; attempts to locate higher psychical functions, association areas; the nature of mind; the sympathetic and related system of nerves; the autonomic fibres; preganglionic and postglangionic fibres; action of nicotine; the cranial and sacral autonomic fibres; the enteric nervous system; etc.

4. *Special Senses*—

The structure and functions of the eye, ear and nose; modes of termination of sensory nerves; the skin and tactile sensation; sensations of heat, cold and pain; etc.

5. *Voice and Speech*—

Anatomy and physiology of the larynx; the quality, pitch, and loudness of the human voice; the different voice registers; vowel sounds; etc.

6. *Physiology of Reproduction.*

Physiological Organic Chemistry.

Mr. Cameron.

The course in Physiological Organic Chemistry consists of twenty-five lectures, given at the commencement of the session, on Mondays, Wednesdays and Thursdays from 2 to 3 o'clock p.m. The following is an outline of the subjects dealt with; the second half, as far as possible, will be treated from a physiological standpoint.

Hydrocarbons of the fatty and aromatic series, halogen derivatives, alcohols and phenols, ethers, aldehydes and ketones, fatty acids, esters, etc.

Glycerol and the fats, carbohydrates, glucosides, cyanogen compounds, urea and its derivatives, uric acid and allied substances, aromatic nitrogen compounds, alkaloids, proteins, etc.

Practical Physiology.

Students of the Second and Third Years in Medicine and students of the Third and Fourth Years in Arts, taking Division D of the course in Natural and Physical Science, are required to attend practical classes in Experimental Physiology and in Physiological Chemistry.

The Elementary Practical Class (for students of the Second Year in Medicine and the Third Year in Arts) will meet during the session on Mondays and Wednesdays, from 3 to 5 o'clock p.m.; the Advanced Practical Class (for students of the Third Year in Medicine and the Fourth Year in Arts), on Tuesdays and Fridays, from 3 to 5 o'clock p.m. Particular importance will be attached to punctuality and regularity in attendance at these practical classes.

EXPERIMENTAL PHYSIOLOGY.

Professor Vincent and Dr. Triggerson.

Elementary Course.

Simple experiments in muscle-nerve physiology, graphic records, effects of varying conditions on muscular contractions, transmission of nerve-impulse, electro-tonus, Pflüger's Law, the beat of the heart and its nervous control, perfusion through blood-vessels, reflex action, etc.

Advanced Course.

Some of the more difficult experiments of the elementary course repeated and studied in greater detail, electro-physiology (galvanometry), blood-pressure, ophthalmoscope, laryngoscope, experiments upon the special senses, physiological psychology, etc.

PHYSIOLOGICAL CHEMISTRY.

Professor Vincent and Mr. Cameron.

Elementary Course.

Isolation and preparation of pure organic compounds; detection of elements, hydrocarbons, halogen derivatives of hydrocarbons, alcohols, esters, ethers, aldehydes and ketones, organic acids, fats; detection and estimation of carbohydrates; action of enzymes; cyanogen compounds, amines, amino-acids, amides, purines, guanidine acids, aromatic compounds, etc.

Advanced Course.

Detection and estimation of carbohydrates, fats, proteins, protein derivatives; food constituents; study of digestive processes; blood; normal and pathological urine with the quantitative estimation of its constituents.

Physiological Histology.

Professor Vincent and Mr. Cameron.

Students of the Third and Fourth Years in Arts taking Division D of the course in Natural and Physical Science are required to attend a course in Physiological Histology. This will consist of one lecture and one period of two hours practical work per week throughout the session (times to be arranged).

Physical Chemistry (As Applied to Physiology and Medicine)

Mr. Cameron.

This course will be given from January to March, one hour per week, at a time to be arranged. It is compulsory for students of the Fourth Year in Arts, taking Division D of the course in Natural and Physical Science. Medical practitioners and others not taking a regular course may be allowed to attend on making application through the Registrar.

TEXT-BOOKS.

For Physiology—

Schäfer, Text-book of Physiology, 2 vols. (Young J. Pentland, Edinburgh and London.)

Howell, An American Text-book of Physiology, 2 vols. (W. B. Saunders, Philadelphia.)

Stewart, Manual of Physiology. (W. B. Saunders, Philadelphia.)

Howell, A Text-book of Physiology. (W. B. Saunders, Philadelphia and London.)

Starling, Elements of Human Physiology. (J. and A. Churchill, London.)

Students are also recommended to consult the following:—
Hutchison, Applied Physiology. (Arnold, London.)

For Physiological Organic Chemistry—

Bunge, Organic Chemistry for Medical Students, trans. by R. H. Aders Plimmer. (Longmans, London and New York.)

For Practical Physiological Chemistry—

R. H. Alders Plimmer, Practical Physiological Chemistry. (Longmans, London and New York.)

For Experimental Physiology—

Schäfer, Practical Physiology. (Longmans, London and New York.)

For Physiological Histology—

Schäfer, Essentials of Histology. (Longmans, London and New York.)

The examination requirements for Third and Fourth Years of the Arts course will be similar to those for the Second and Third Years of Medicine respectively, except in so far that Arts students may be required to pass an examination in practical histology.

A deposit of five dollars is paid to the Registrar at the beginning of each session, and all breakages will be made good from this. See page 245.

The physiological laboratories are open daily from 9 a.m. to 11 p.m. for the prosecution of original research. Application is to be made to the Professor.

DEPARTMENT OF ZOOLOGY.

Swale Vincent, M.D., D.Sc., M.R.C.S., L.R.C.P., F.R.SS.E. & C.	*Professor*
C. J. Triggerson, M.A., Ph.D.	*Lecturer*

The lectures in Zoology will for the present be given in the Physiology Lecture Theatre, and the practical work in the Experimental Physiology Laboratory.

Course 1.

Dr. Triggerson.

This course is arranged for students of the Second Year in Arts taking the Biology Option. Two lectures a week will be given at times to be arranged.

An Introduction to Zoology.

The course will treat of the following subjects: A description of certain simple organisms, viz., Amoeba, Paramœcium, Vorticella and Hydra; the interdependence of organisms; the life cycle; the adjustment of the organism to the environment; the responsive life of organisms; a general survey of the animal kingdom (classification and morphology); a sketch of the pioneers of Zoology.

COURSE 2.

Dr. Triggerson.

Mondays and Thursdays, 3 to 4 p.m.

This course is arranged for students of the First Year in Medicine. Two lectures and one practical class (of two hours) a week are given. The practical class will meet on Thursdays throughout the session from 4 to 6 p.m.

The course embraces the following:

(a) The structure and life history of Amoeba, Paramœcium, Vorticella, Hydra and Ascaris.

(b) A comparative study of the integument, skeleton, muscular system, alimentary system, vascular system, respiratory system, nervous system, organs of special sense, and urogenital organs of Rana, Columba and Lepus.

COURSE 3.

Dr. Triggerson.

This course is intended for students of the Third Year in Arts in the course in Natural and Physical Science. It will not be given during the session of 1911-1912.

Part I.—A study of the life, habits and anatomy of representative groups of invertebrates. Two lectures and one practical class a week (first term only).

Part II.—A study of the life, habits and anatomy of representative groups of vertebrates. Two lectures and one practical class a week (second term only).

TEXT-BOOKS.

Parker, Biology.

Marshall, The Frog (for Medical students).

Needham, General Biology.

Parker and Haswell, Text-book in Zoology.

Pratt, A Course in Vertebrate Zoology.

Wiedersheim, Comparative Anatomy of Vertebrates.

Curricula in Engineering

CURRICULA IN ENGINEERING

The University of Manitoba confers four degrees in Engineering, viz., Bachelor of Civil Engineering (B.C.E.), Master of Civil Engineering (M.C.E.), Bachelor of Electrical Engineering (B.E.E.), and Master of Electrical Engineering (M.E.E.). The following are the requisites for proceeding in course to admission to these degrees:

I. Bachelor of Civil Engineering.

MATRICULATION.

Students may be admitted to the Engineering Courses as:

(1) Undergraduates.

(2) Conditioned Students.

(3) Partial Students.

Undergraduate Students are those who are taking the full course leading to a degree and who have satisfied the requirements for matriculation.

The requirements for matriculation for Engineering (Civil or Electrical) are set forth in detail on pages 45 and 46.

(NOTE 1—Students holding the standing of Arts Matriculation must pass examinations in Algebra, Geometry and Trigonometry of Part II. Matriculation for Engineering before completing the Matriculation requirements for a course in Engineering.)

NOTE 2—Students who have completed the First Year of the undergraduate course in Arts may enter upon the course in Engineering without further examination.)

Conditioned Students are subject to the same rules as govern Conditioned Students in Arts. See page 222.

Partial Students are those who do not belong to either of the above classes, but who, with the approval of the Professor concerned, are taking one or more of the special subjects of the Engineering courses, such students being allowed to attend any class without previous examination, provided they satisfy the Professor of their ability to proceed with the class.

Only fully matriculated or undergraduate students and conditioned students who have met the requirements of the University regarding the removal of their conditions before the commencement of the Second Year, may proceed with the course for a degree.

UNDERGRADUATE COURSE IN CIVIL ENGINEERING.

General Plan of Course.

After having matriculated, the student of Civil Engineering is required to obtain credit for attendance at lectures and for laboratory, field and office work, as outlined below, and to pass four examinations, before being admitted to the degree of Bachelor of Civil Engineering, viz., the First, the Second, the Third and the Fourth Year examinations.

Object of the Course.

The course in Civil Engineering is designed to give a broad education in those general and scientific subjects which are the foundation of all branches of engineering and a special training in those subjects especially related to Civil Engineering, enabling the student to take a position in any of the special branches, such as:—

(1) Railroad Engineering.

(2) Land Surveying.*

(3) Railway and Geodetic Surveying.

(4) Hydraulic Engineering (including the development of hydraulic power, etc.).

(5) Land Irrigation.

(6) Municipal Engineering (including design and construction of roads and pavements, water supply systems, sewerage systems).

(7) Sanitary Engineering.

(8) Bridge and Structural Engineering.

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*The course has been specially arranged so that students who intend to take our licenses as Land Surveyors may select subjects from the Civil Engineering course which bear directly upon the examination for Land Surveyors.

As the Civil Engineer frequently has to deal with problems involving electrical and mechanical work, the course also provides instruction in the principles of Steam and Mechanical Engineering, as well as in the principles of Electrical Engineering.

With this groundwork the student has a wide field from which to choose his life work, and the course especially fits him for the management and direction of business and engineering enterprises after he has received the necessary practical experience.

Method of Instruction.

Instruction is given by lectures, recitations and class room work, together with actual practice in field and in drawing work.

Examinations.

In order to pass in any examination of the Civil Engineering Course (beyond Matriculation), candidates are required to make a standing of 50 per cent. on each subject. The practical work in the field, drafting room and class-room during the session is counted.

OUTLINE OF COURSE.

(For students matriculating in 1910 or thereafter.)*

First Year.

1. Analytical Geometry. (See Course 1, page 121.)
2. Algebra. (See Course 2, page 121.)
3. Solid Geometry and Mensuration. (See Courses 3 and 4, page 121.)
4. Plane and Spherical Trigonometry. (See Course 5, page 121 and Course 6, page 122.)
5. Chemistry—
    (a) Lecture Course. (See Course 1, page 138.)
    (b) Laboratory Work. (See page 142.)

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* Students who have entered upon the work in Engineering prior to 1910, when the Course was based on lower Matriculation requirements, must consult the Faculty as to the necessary adjustments to be made to meet their case.

6. Physics—Mechanics, Heat and Sound—
    - (a) Lecture Course. (See Course 4, page 128.)
    - (b) Laboratory Work. (See Course 6, page 129.)
7. Descriptive Geometry I. (See Course 2, page 164.)
8. Drawing I. (See Course 4, page 165.)
9. Surveying I. (See Course 18, page 169.)
10. English. (See page 112.)

Second Year.

1. Differential and Integral Calculus. (See Course 7, page 122.)
2. Physics—Light, Magnetism and Electricity—
    - (a) Lecture Course. (See Course 5, page 128.)
    - (b) Laboratory Work. (See Course 7, page 129.)
3. Chemistry—Quantitative Analysis.
   Laboratory Course. (See page 142.)
4. Descriptive Geometry II. (See Course 3, page 165.)
5. Drawing II. (See Course 5, page 165.)
6. Surveying II. (See Course 19, page 170.)
7. Materials of Engineering. (See Course 10, page 167.)
8. Kinematics of Machines. (See Course 1, page 175.)
9. Engineering Economics.

Third Year.

1. Railway Surveying and Construction. (See Course 13, page 168.)
2. Masonry Construction and Foundations. (See Course 9, page 167.)
3. Hydraulics. (See Course 8, page 166.)

4. Strength of Materials. (See Course 17, page 169.)
5. Graphical Statics. (See Course 7, page 166.)
6. Cement Testing. (See Course 1, page 164.)
7. Material Testing. (See Course 11, page 167.)
8. General Geology—
   (a) Lecture Course. (See Course 1, page 133.)
   (b) Class in Practical Geology. (See Course 2, page 134.)
9. Economic and Mining Geology. (See Course 7, page 137.)
10. Mechanical Engineering. (See Course 2, page 176.)
11. Metallurgy. (See Course 4, page 140.)
12. Practical Astronomy. (See Course 8, page 122.)

Fourth Year.

1. Roof, Truss and Bridge Design. (See Course 15, page 168.)
2. Water Supply and Irrigation. (See Course 21, page 170.)
3. Sewerage and Sewage Purification. (See Course 16, page 169.)
4. Railway Economics. (See Course 12, page 168.)
5. Reinforced Concrete Construction. (See Course 14, page 168.)
6. Water Power Development. (See Course 20, page 170.)
7. Geodesy. (See Course 6, page 166.)
8. Elements of Electrical Engineering. (See Course 9, page 175.)

SUMMER THESES.

Students of the First, Second and Third Years will be required to prepare during the summer following each of these years a thesis describing in detail some piece of engineering work or structure, or describing any work with which they have been connected during the vacation.

These theses must be submitted to the Professor of Civil Engineering on or before October 15th.

GRADUATION THESES.

Every student of the Fourth Year is required to prepare a design, with adequate drawings, of some engineering work or enterprise, or to complete an original research on some material of construction.

The subjects of these theses are to be submitted for approval to the Professor of Civil Engineering not later than January 15th, and the completed reports must be handed in on or before April 15th of the final year.

II.—Master of Civil Engineering.

Candidates for the degree of Master of Civil Engineering (M.C.E.) must have been admitted to the degree of Bachelor of Civil Engineering at least two years previously, must have spent the interval in the active practice of the profession, and must present theses (with plans), satisfactory to the examiners, upon some engineering work with which they have been connected.

III.—Bachelor of Electrical Engineering.

MATRICULATION.

See under Matriculation for course for Bachelor of Civil Engineering, page 154.

UNDERGRADUATE COURSE IN ELECTRICAL ENGINEERING.

General Plan of Course.

After having matriculated, the student of Electrical Engineering is required to obtain credit for attendance at lectures and for field, office and laboratory work, as outlined below, and to pass four examinations, before being admitted to the degree of Bachelor of Electrical Engineering, viz., the First, the Second, the Third and the Fourth Year examinations.

Object of the Course.

The course in Electrical Engineering is intended to give a student, first, a preliminary training in the various sciences, such as Physics, Chemistry and Mathematics, which must form the basis of any engineering education; secondly, instruction in the general engineering subjects, such as Surveying, Mechanical Drawing, Strength of Materials, and Hydraulics; and thirdly, acquaintance with the subjects required to qualify a man for the special work of an Electrical Engineer, namely, the flow of continuous and alternating currents, the design and operation of continuous and alternating current machinery, electric railways, electric lighting and power distribution, mechanical engineering, hydraulic machinery and machine design.

In general, the course is intended to give a student a working knowledge of the principles of Civil and Mechanical Engineering, and a more specialized training in Electrical Engineering, which, when combined with experience in practical work, will qualify him to perform the duties of an engineer in charge of the design or operation of electrical plants, railways or other industries.

Method of Instruction.

Instruction is given by lectures, recitations and class room work, and by actual practice in field, drafting room and laboratory.

Examinations.

In order to pass in any examination of the Electrical Engineering Course (beyond Matriculation), candidates are requested to make a standing of 50 per cent. on each subject. The practical work in the field, drafting-room, class room and laboratories during the session is counted.

OUTLINE OF COURSE.

(For students matriculating in 1910 or thereafter.)*

First Year.

The First Year course is the same as that required of students of the First Year in Civil Engineering.

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* Students who have entered upon the work in Engineering prior to 1910, when the Course was based on lower Matriculation requirements, must consult the Faculty as to the necessary adjustments to be made to meet their case.

Second Year.

The Second Year course is the same as that required of students of the Second Year in Civil Engineering.

Third Year.

1. Continuous Currents and Continuous Current Machinery. (See Course 1, page 172.)
2. Continuous Current Laboratory Course. (See Course 7, page 174.)
3. Machine Design I. (See Course 3, page 176.)
4. Mechanical Engineering I. (See Course 2, page 176.)
5. Mechanical Drawing. (See Course 4, page 176.)
6. Physics. (See Course 8, page 130.)
7. Strength of Materials. (See Course 17, page 169.)
8. Graphical Statics. (See Course 7, page 166.)
9. Hydraulics. (See Course 8, page 166.)
10. Material Testing (Laboratory Course.) (See Course 11, page 167.)
11. Mathematics—Differential Equations. (See Course 9, page 122.)

VISITS TO ELECTRICAL PLANTS.

A series of visits to electrical power plants and industries where electricity is used, will be made under the guidance of the professor of Electrical Engineering, in order that the student may become familiar with the methods of using electricity in actual commercial practice.

SUMMER THESIS.

In the summer holidays each student will be required to prepare a complete set of drawings of some electrical power plant, or to write a thesis on the electrical equipment of some industry.

SUMMER WORK.

Students are strongly recommended to spend their holidays at electrical or mechanical engineering work of some kind, and the value of such work will be recognized in the final estimate of the student's qualifications for the degree.

Fourth Year.

1. Alternating Currents and Alternating Current Machinery. (See Course 2, page 173.)
2. Alternating Current Laboratory Course. (See Course 8, page 174.)
3. Designing. (See Course 3, page 173.)
4. Electric Lighting and Power Distribution. (See Course 4, page 173.)
5. Electric Traction. (See Course 5, page 174.)
6. Hydraulic Machinery. (See Course 6, page 174.)
7. Machine Design II. (See Course 6, page 177.)
8. Mechanical Engineering, II. (See Course 5, page 176.)
9. Electro-Chemistry. (See Course 5, page 140.)
10. Power Development. (See Course 20, page 170.)
11. Thesis.

During the latter part of the second term the time allowed for laboratory work will be devoted to some original investigation, the results of which will be presented as a thesis at the end of the session.

IV. Master of Electrical Engineering.

Candidates for the degree of Master of Electrical Engineering (M.E.E.) must have been admitted to the degree of Bachelor of Electrical Engineering at last two years previously, must have spent the interval in the active practice of the profession, and must present theses (with plans), satisfactory to the examiners, upon some engineering work with which they have been connected.

University Departments of Instruction in Engineering

DEPARTMENT OF CIVIL ENGINEERING

Ernest E. Brydone-Jack, B.A., C.E. (Renss.), M. Can. Soc. C.E., M. Am. Soc. C.E., M. Am. Soc. Prom. Eng. Ed. ....*Professor of Civil Engineering*

George Halstead, M.Sc. *Lecturer in Materials and Hydraulics*

Leslie I. Johnstone, B.S... *Lecturer in Surveying and Geodesy*

Lesslie R. Thomson, B.A.Sc., A.M. Can. Soc. C.E. .... *Lecturer in Graphics, Masonry Construction and Drawing*

Course 1.

Cement Testing.

Professor Brydone-Jack and Mr. Halstead.

Preparation of specimens for testing; determination of fineness; specific gravity, tensile strength, normal consistency, time of setting, soundness, compressive transverse and torsional strength; effect of temperature.

Laboratory work, three hours per week (First term).

Opportunity is given for research or advanced work.

Course 2.

Descriptive Geometry, I.

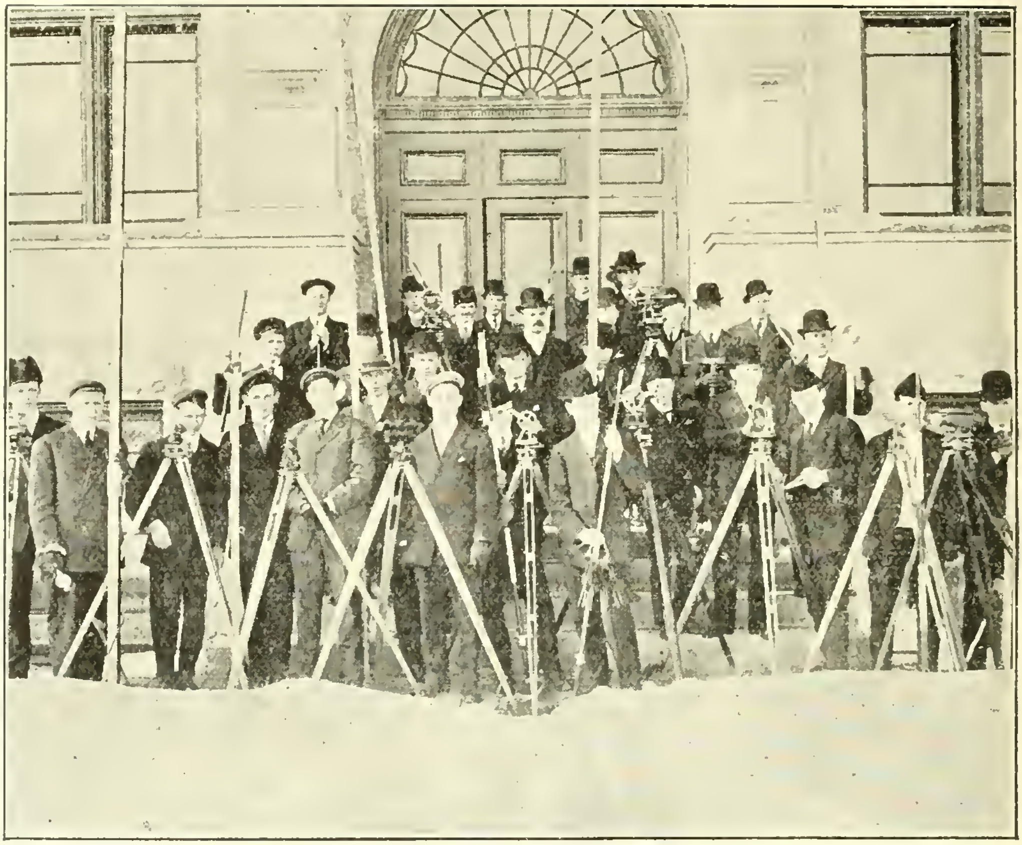
Mr. Thomson.

This is a course in Descriptive Geometry, which, starting with no knowledge on the student's part of solid geometry, covers the following:

1. Elementary solid geometry as related to description.

2. Elementary principles of orthographic projections.

3. The application of these principles to simple problems on straight line and plane.



READY FOR FIELD WORK

ENGINEERING DRAUGHTING ROOM

4. Geometric projections.

5. Oblique projections.

Lectures, two hours per week, both terms.

COURSE 3.

DESCRIPTIVE GEOMETRY, II.

Mr. Thomson.

This course is a continuation of Course 2 above, and covers the following:

Solids bounded by curved surfaces; tangencies, linear and plane; intersections and developments; shades and shadows; perspective; the application of the principles of Descriptive Geometry to simple steel connections

Lectures, two hours per week, both terms.

COURSE 4.

DRAWING, I.

Mr. Thomson.

This course is given by lectures and class work, and covers the following:

1. Testing and use of drawing instruments.

2. Lettering.

3. Geometrical coplanar problems.

4. A number of examples of single pieces of apparatus in steel and iron; also simple steel connections.

5. Tracing and blue printing.

COURSE 5.

DRAWING, II.

Mr. Thomson.

This course is given by lectures and class work, and covers the following:

1. Shading with ink and color.

2. Copying from the flat in ink and color.

3. Measurement and drawing of steel and iron apparatus of a more advanced character than that of Course 4.

4. Intersection and development of surfaces.

5. Perspective of single apparatus.

COURSE 6.

GEODESY.

Mr. Johnstone.

Objects of geodetic surveying; triangulation systems; base line and measurement stations; measurement and adjustment of angles; trigonometric and precise levelling; projection of maps.

Lectures, two hours per week.

COURSE 7.

GRAPHICAL STATICS.

Mr. Thomson.

Principles and use of the force polygon, equilibrium polygon, and influence lines in the determination of stresses; reactions and moments for beams and elementary framed structures.

Lectures and class work, two hours per week.

COURSE 8.

HYDRAULICS.

Mr. Halstead.

Principles of hydraulics; laws of flow through orifices and over weirs; laws of flow in open and closed channels; laws of flow through long pipes; calculation of discharge of pipes; sizes of pipes; methods of calculating discharge of streams and rivers; hydraulic motors and theory of turbines; calculation of water power.

Lectures, two hours per week.

COURSE 9.

MASONRY CONSTRUCTION AND FOUNDATIONS.

Mr. Thomson.

Foundations and earth pressure; principles and design of masonry retaining walls, dams and arches; city pavements.

Lectures, two hours per week.

COURSE 10.

MATERIALS OF ENGINEERING.

Mr. Halstead.

Characteristics and manufacture of cement, concrete, brick, stone, wood, iron and steel.

Lectures, two hours per week (one term only).

COURSE 11.

MATERIAL TESTING.

Professor Brydone-Jack and Mr. Halstead.

Tensile, compressive and transverse strengths of iron, steel, timber, brick and stone; calculation of fibre stresses; elastic limit and coefficient of elasticity.

Laboratory work, three hours per week (Second term).

COURSE 12

RAILWAY ECONOMICS.

Mr. Johnstone.

Organization and financing of railway companies; effect of grade, curvature and distance on the operating expenses; relation of operating expenses to gross revenue and fixed charges; relation of probable traffic to population; costs of betterment of existing lines in relation to saving in operating expenses and increase in gross revenue.

Lectures, two hours per week (First term).

COURSE 13.

RAILWAY SURVEYING AND CONSTRUCTION.

Mr. Johnstone.

Preliminary and location surveys for railroads; practice in running in curves, setting slope stakes; calculation and measurement of quantities in excavation and embankment construction work, and culverts, track work, switches and crossings; practice in field methods.

Lectures, two hours per week; field and office work, three hours per week.

COURSE 14.

REINFORCED CONCRETE CONSTRUCTION.

Professor Brydone-Jack.

General theory of reinforcement; reinforced beams, columns, arches and retaining walls.

Lectures and class work, three hours per week (First term).

COURSE 15.

ROOF, TRUSS AND BRIDGE DESIGN.

Professor Brydone-Jack.

Calculation of stresses and design of wooden and iron roof trusses, highway and railway bridges, trestles, viaducts and arches.

Lectures, three hours per week; class work, six hours per week.

COURSE 16.

SEWERAGE AND SEWAGE PURIFICATION.

Mr. Halstead.

Elements of sanitary engineering; design and construction of sewerage systems; separate and combined systems; size and discharge of sewers.

Lectures, three hours per week (one term only); class work, three hours per week (one term only).

COURSE 17.

STRENGTH OF MATERIALS.

Mr. Halstead.

The elasticity and strength of engineering materials under different conditions; safe loads and stresses for these materials; shearing forces and bending movements in simple and continuous beams under uniform and concentrated loads; the application of this to the designs of beams and girders; investigation and design of long columns, shafts and pulleys; calculation of moments of inertia and radii of gyration.

Lectures, two hours per week.

COURSE 18.

SURVEYING, I.

Mr. Johnstone (Lectures, Class-work and Mapping).

Mr. Johnstone, Mr. Halstead, Mr. Thomson (Field Work).

Use and adjustment of the various surveying instruments, such as the chain, compass, level, transit, etc. (theory and practice); methods of laying out and dividing land; calculation of latitudes, departures, co-ordinates and areas; azimuths, deflections, measurement of angles and repetition of angles; forms of field notes, etc.

Practice in the use of the chain, compass, level, transit and minor instruments; chain and compass surveys; maps of chain and compass surveys; construction of profiles, etc.; office calculations, etc.

Lectures, two hours per week; field work and mapping, six hours per week.

COURSE 19.

SURVEYING, II.

Mr. Johnstone (Lectures, Class-work and Mapping).

Mr. Johnstone, Mr. Halstead, Mr. Thomson (Field Work).

Land surveying and system of Dominion Land surveys; topographic surveying; hydrographic surveying; city surveying; mining surveying; plane table surveying; triangulation.

Lectures, two hours per week.

Topographic and triangulation surveys; use of stadia; topographical maps; hydrographic maps; city plans and profiles, etc.; office calculations.

Field work and mapping, six hours per week.

COURSE 20.

WATER POWER DEVELOPMENT.

Mr. Halstead.

Reconnaissance of water power; structures and equipment; value of project.

Lectures, two hours per week (Second term).

COURSE 21.

WATER SUPPLY AND IRRIGATION.

Professor Brydone-Jack.

Relation of rainfall to runoff from drainage areas; storage of water from drainage areas; reservoirs; calculation of water supply for cities and irrigation purposes; quality of water and relation to disease; distribution systems and plants; filtration and purification.

Lectures, three hours per week (one term only).

Equipment of the Department of Civil Engineering.

Surveying Instruments—The University has the following equipment of surveying instruments:—

- Buff & Buff Transit, with stadia wires, gradienter and solar attachment.
- Cooke Transit Theodolite, stadia wires and attachments.
- K. & E. Transit, stadia wires and attachments.
- K. & E. Extra Fine Light Mountain Transit.
- Watts' Latest Pattern Transit.
- Dietzgen Mountain Transit.
- Dietzgen 6″ Transit.
- 5″ Dominion Land Surveyor's Transit.
- Buff & Buff Dumpy Level.
- Buff & Buff 18″ Y Level.
- Cooke Reversible Level.
- Stanley New Pattern Level.
- K. & E. 18″ Y Level.
- Watts' Y Level.
- Railway Compass, 4″ Compass and Prismatic Compass.
- Pocket Sextant and Sextants reading to 10 seconds.
- Plane Table, Current Meter, Levelling Rods, Pickets, Chains, Tapes, Hand Levels, Stadia Rods, Slide Rules, Planimeter, Pantagraphs, Three-armed Protractor, etc.

Material Testing Laboratory.—This laboratory is equipped with a large Testing Machine of 200,000 lbs. capacity, a Riehle Yale Extensometer, a Compressometer, a Transverse Indicator, and all the necessary tools for tensile, compressive, transverse and shearing tests. The machine is especially designed so that it can make transverse tests on beams eight feet long. It is both automatic and autographic, and is driven by an eight-horsepower 500-volt direct current motor. The machine is used for testing the strength of iron, steel, wood, stone, brick, concrete and reinforced concrete used in engineering structures.

The laboratory also contains a machine for testing abrasion and for the preparation of specimens, and a hydraulic machine of 10,000 lbs. capacity for crushing and transverse tests.

Cement Laboratory.—This laboratory is equipped with all the apparatus for making the usual commercial tests on hydraulic cements.

The apparatus includes a Riehle Shot Testing Machine, a Riehle Automatic Beam Testing Machine for making tensile, compressive, transverse and torsion tests; briquette moulds sand and cement sieves, Vicat needle apparatus and Gillmore needles, balances, moist closet, immersion tanks, mixing tables, steaming and boiling apparatus, drying oven, volumenometers, specific gravity apparatus and other accessories. The beam testing machine is run by a three-phase 60-cycle motor, and is also provided with batteries for automatic record.

Drawing Models and Blue Print Room.—Several models have been made especially to order for use in Projection and Descriptive Geometry, while more are being ordered.

The blue print room has a large blue print frame supported by a carriage, so that the frame can be turned in any direction or at any angle.

Provision is made for washing and drying blue prints, as well as for preparing same, if necessary.

DEPARTMENT OF ELECTRICAL ENGINEERING.

Edward P. Fetherstonhaugh, B.Sc., A.M. Can. Soc. C.E., Assoc. A.I.E.E............*Professor of Electrical Engineering*

John W. Dorsey, E.E. ....*Lecturer in Electrical and Mechanical Engineering*

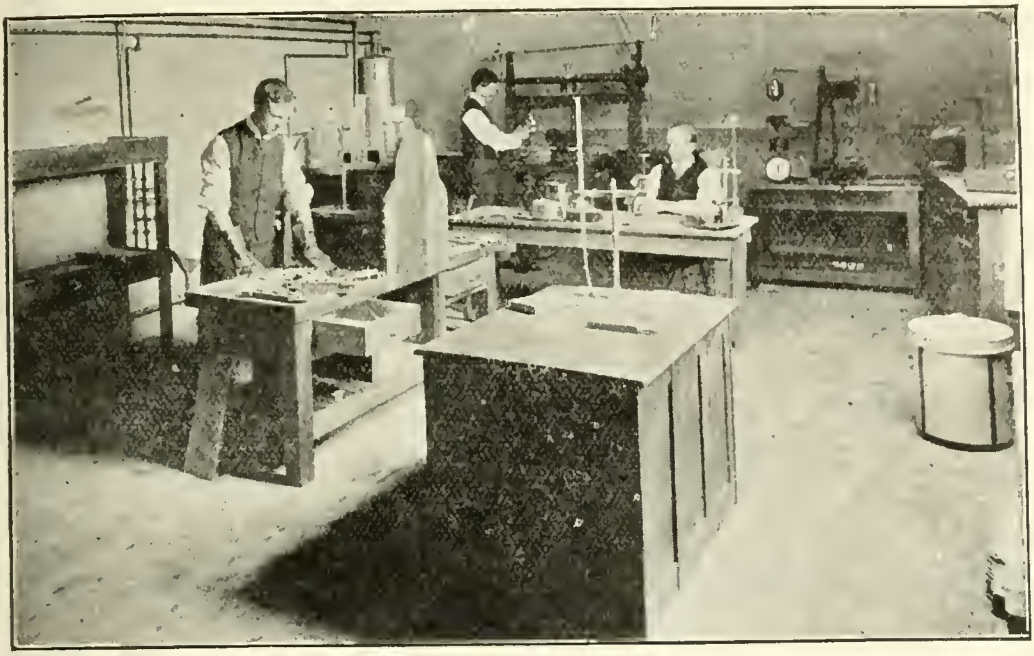
Electrical Engineering.

Course 1.

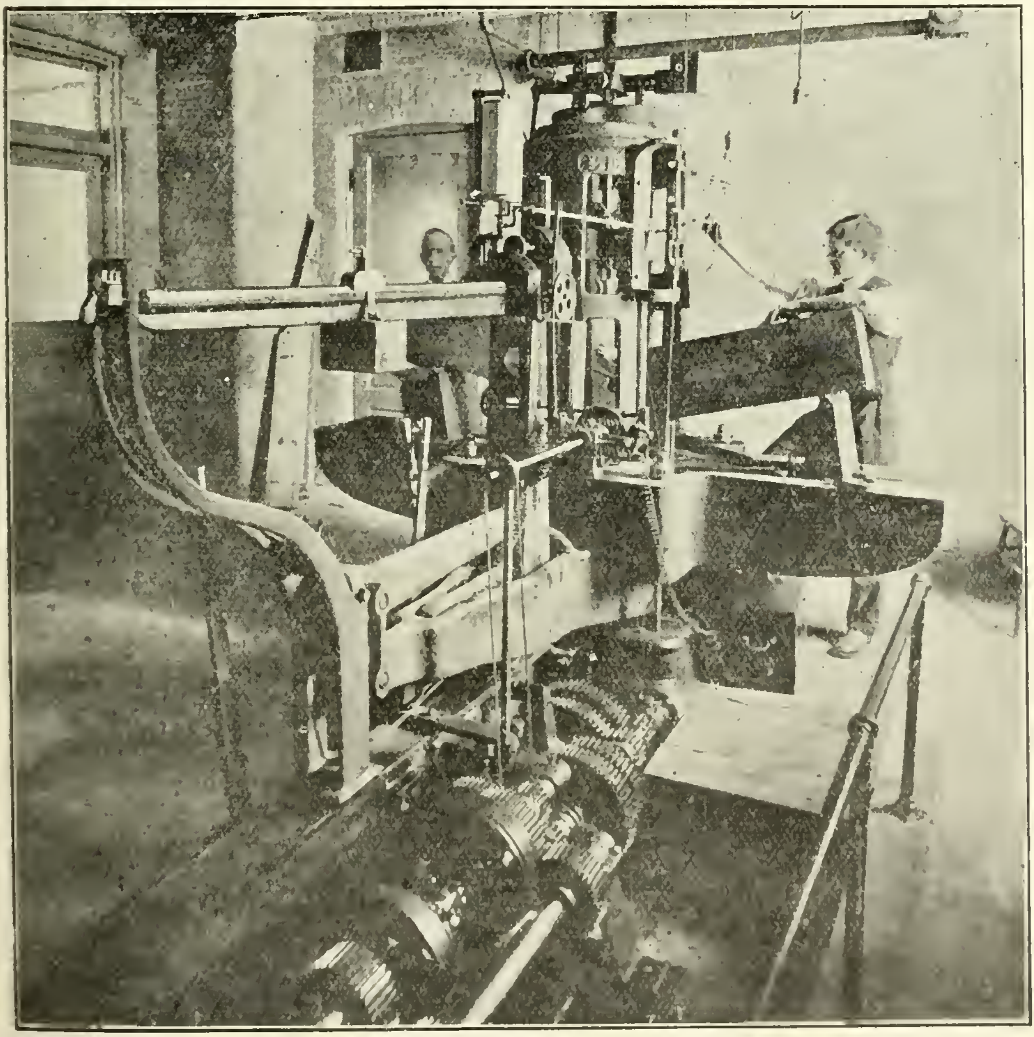
Continuous Currents and Continuous Current Machinery.

Mr. Dorsey.

A course of lectures on the flow of continuous currents in circuits of various kinds, the laws governing the growth and



CEMENT TESTING LABORATORY



TESTING MACHINE—200,000 LBS. CAPACITY

decay of such currents, the laws of magnetism, and the application of these laws and principles to the design and operation of direct current machinery.

Two lectures per week.

COURSE 2.

ALTERNATING CURRENTS AND ALTERNATING CURRENT MACHINERY.

Professor Fetherstonhaugh.

A course of lectures involving a study of the flow of alternating currents in circuits containing resistance reactance and capacity, separately and combined, and the application of these laws to the design of alternating current machinery.

Three lectures per week.

COURSE 3.

DESIGNING.

Professor Fetherstonhaugh.

Details and assembly drawings of, and full calculations involved in the design of direct and alternating current apparatus, such as motors, transformers, generators, etc.

Three hours per week in draughting-room.

COURSE 4

ELECTRIC LIGHTING AND POWER DISTRIBUTION.

Professor Fetherstonhaugh.

Design of lighting and power systems, including generating plant, distributing and transmission lines, and the application of power to illumination and industrial purposes.

Two lectures per week. First Term.

COURSE 5

ELECTRIC TRACTION.

Professor Fetherstonhaugh.

A course involving track and overhead construction for electric railways, city and suburban, determination of power required to draw cars under various conditions of track, curves, grades, etc.

Two lectures per week. Second Term.

COURSE 6.

HYDRAULIC MACHINERY.

Professor Fetherstonhaugh.

A course of descriptive lectures on hydraulic machinery, pumps, turbines, governors, etc.

One lecture per week. Second Term.

COURSE 7.

CONTINUOUS CURRENT LABORATORY.

Mr. Dorsey.

To supplement the lecture course on Continuous Currents and Continuous Current Machinery, there will be a course of practical work in the laboratory, in which students will be trained in the use of electrical machines of different types, and the various methods of testing electrical machinery to determine the uses to which they may be put and their limitations.

Two laboratory periods per week of two hours each

COURSE 8.

ALTERNATING CURRENT LABORATORY.

Professor Fetherstonhaugh.

A course of experimental work with alternating current motors, single phase and polyphase, generators, transformers, meters of various types, and other alternating current apparatus. The student in this course will be instructed to investigate certain characteristics of machines and will be trained to use his own initiative as far as is possible in determining the methods to be pursued.

Three laboratory periods per week of two hours each.

Course 9.

Elements of Electrical Engineering.

Professor Fetherstonhaugh.

A general treatment of the elementary considerations involved in problems relating to the generation, transmission and utilization of electrical power and an accompanying course of laboratory instruction, consisting of tests and experiments with continuous and alternating current machinery, designed to verify the laws of electricity and magnetism and to familiarize the student to some extent with the characteristics and limitations of the various types of machines to be met with in practice.

Lectures, two hours per week.

Laboratory, one period per week.

Mechanical Engineering

Course 1.

Kinematics of Machines.

Mr. Dorsey.

Elements of mechanism, relative motion, virtual centres, velocity and acceleration of machine parts, classification of simple mechanisms, design of wheel teeth, belt gearing and cams.

Two lectures per week.

COURSE 2.

MECHANICAL ENGINEERING, I.

Mr. Dorsey.

A course of lectures on power plants, covering fuels and combustion, steam boilers, steam engines, steam turbines, condensers, feed water heaters, and auxiliaries, gas engines, gas producers and the general considerations involved in the design and economical operation of power plants and the selection of equipment.

Two lectures per week.

COURSE 3.

MACHINE DESIGN, I.

Mr. Dorsey.

A course of lectures on the application of the principles of the strength of materials to the design of bolts, rivetted joints, shafts, bearings and simple machine parts.

Two lectures per week.

COURSE 4.

MECHANICAL DRAWING.

Mr. Dorsey.

A course in design and drawing of machines and their parts, working drawings, assembly drawings, etc.

Three hours per week in draughting-room.

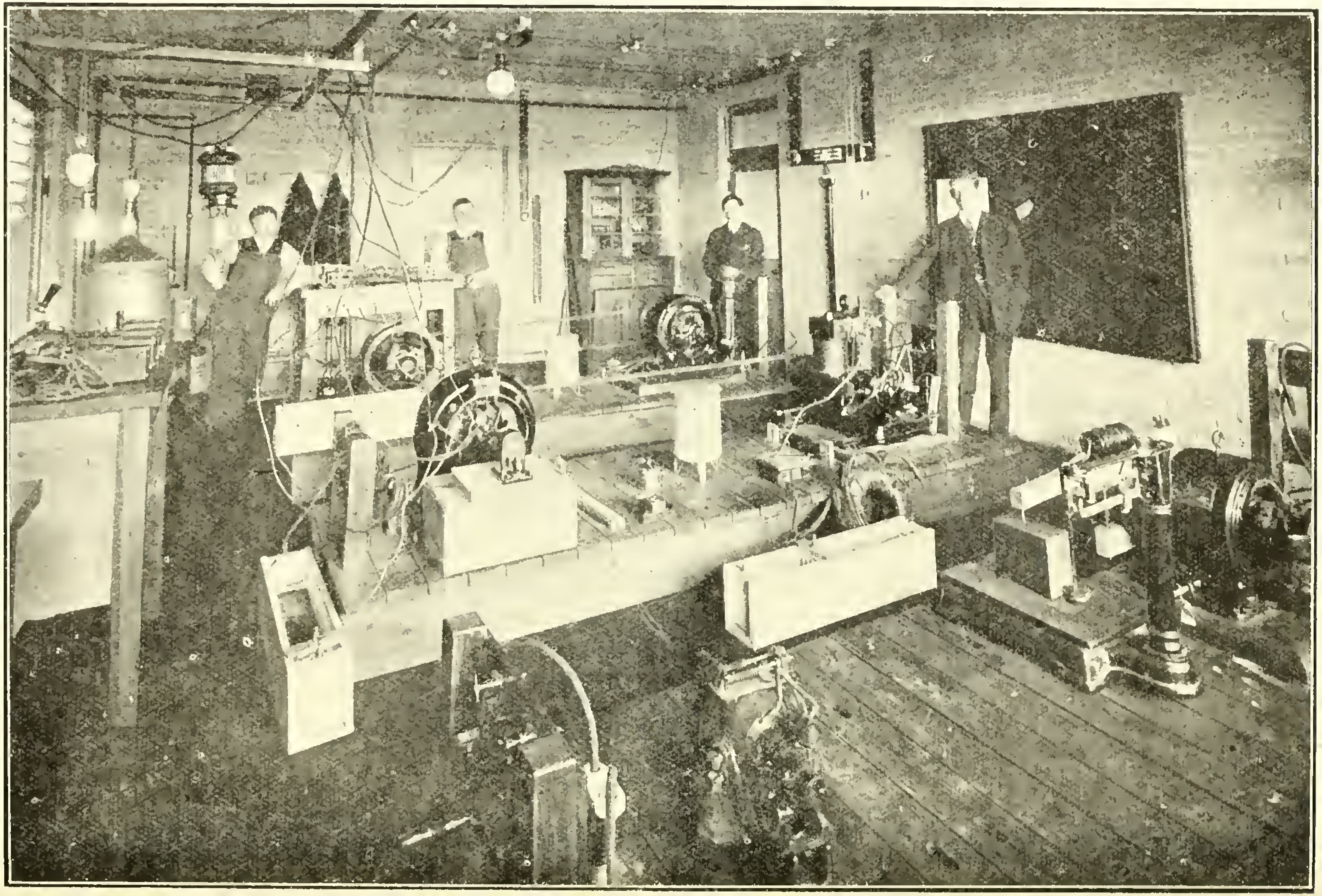
COURSE 5.

MECHANICAL ENGINEERING, II.

Mr. Dorsey.

The laws of Thermodynamics, the properties of steam, saturated and superheated, the indicator, and the elementary theory of steam and other heat engines.

Two lectures per week. Second Term.



CONTINUOUS CURRENT ELECTRICAL LABORATORY

Course 6.

Machine Design, II.

Mr. Dorsey.

A course of lectures on the design of belts, rope drives, pulleys, engine details, fly wheels, valves, etc.

Two lectures per week. First Term.

Electrical Laboratories

Continuous Current Laboratory—

This laboratory has been equipped to enable the students in the shortest possible time to perform a large number of tests and investigations. A 30 horse-power, 20 kilowatt motor-generator takes alternating current from the Winnipeg Electric Railway Company's system and converts it into direct current at 110 volts for use in the laboratory. A number of machines of various types are used, among which may be mentioned the following: a 7 horse-power, 110 volt, Western Electric, auxiliary pole, variable speed motor; a 3 horse-power, 110 volt, Westinghouse, type "R" series motor; a 6 kilowatt, 125 volt, Westinghouse, compound wound, type "S" generator; a 4 kilowatt, 110 volt, Edison bipolar generator, and a 2 kilowatt, 125 volt, General Electric, compound wound generator. The laboratory is also supplied with a number of Weston ammeters, voltmeters, tachometers, etc., and the necessary switching and controlling apparatus and instrument tables.

Standardizing Laboratory—

The standardizing laboratory has been equipped with a "Leeds Northrup" potentiometer with multipliers, shunts, galvanometer and two Weston standard cells. Two Kelvin balances have also been installed, a "Composite" and a "Deciampere." For obtaining steady readings of current and voltage for calibrating purposes, seventy-five three-quarter ampere and six twenty-five ampere storage cells have been installed.

Alternating Current Laboratory—

In the alternating current laboratory there have been installed a number of machines and pieces of apparatus of representative types, among which may be mentioned: A 7½ kilowatt General Electric revolving field, 60 cycle alternating current generator, with taps for 1, 2, 3, 6 and 12 phase connections; a 10 horse-power Westinghouse variable speed direct current motor for driving the generator; a 10 kilowatt Westinghouse Rotary Convertor, with slip rings giving 1, 2 or 3 phase on the alternating current side, and wound for 110 volts on the direct current side; a 1 horse-power Wagner single phase motor, a 3 horse-power 3 phase Westinghouse "Squirrel Cage" type induction motor, a number of transformers of standard type and of types specially designed for experimental purposes. A large number of Weston portable instruments and the necessary variable inductances, rheostats, switching and loading devices are also provided, with the aid of which students are able to become thoroughly familiar with the characteristics of the various machines and the methods of investigating them.

Donations.

The following instruments and other pieces of apparatus have been presented to the department for use in the laboratories:

From the Canadian Westinghouse Company:

Three two-glower Nernst lamps.

One 110 Volt Direct Current Arc Lamp.

One 5 Ampere, 110 Volt Direct Current Wattmeter.

One 3 Horse-power, 110 Volt "Squirrel Cage" Induction Motor.

Two 1 Kilowatt 2200|110 Volt Lighting Transformers.

One A.C. Multiple Enclosed Arc Lamp.

One 5 Ampere, 110 Volt Induction Type Wattmeter.

One 500 Volt M.P. Lightning Arrester.

From the Town of Kenora:

One Crocker-Wheeler Rotary Transformer.

Two Thompson Integrating Wattmeters.

Two Wright Maximum Demand Indicators.

Two Induction Type Meters.

One Lacey Maximum Current Controller.

From the Weston Electrical Instrument Co.:

One Ammeter, Range, 75 Amperes.

One Voltmeter, Range, 300 Volts.

DEPARTMENT OF ENGLISH.

See Department of English under University Departments of Instruction in Arts, in particular, page 112.

DEPARTMENT OF POLITICAL ECONOMY.

See Department of Political Economy under the University Departments of Instruction in Arts.

DEPARTMENT OF MATHEMATICS.

See Department of Mathematics under University Departments of Instruction in Arts, in particular, pages 121 to 123.

DEPARTMENT OF PHYSICS.

See Department of Physics under University Departments of Instruction in Arts, in particular, pages 128 to 130.

DEPARTMENT OF CHEMISTRY.

See Department of Chemistry under University Departments of Instruction in Arts, pages 138 to 142.

DEPARTMENT OF GEOLOGY.

See Department of Geology under University Departments of Instruction in Arts, pages 133 to 137.

Curricula in Medicine

CURRICULA IN MEDICINE

The University of Manitoba confers two degrees in Medicine, viz., Doctor of Medicine (M.D.) and Master of Surgery (C.M.). The following are the requisites for proceeding in course to admission to these degrees:

I.—DOCTOR OF MEDICINE.

MATRICULATION.

The requirements for Matriculation for Medicine are set forth in detail on pages 43 and 44.)

NOTE 1.—Arts Matriculation with any selection of optional subjects will be accepted in lieu of Medical Matriculation.

NOTE 2.—In the case of candidates who do not matriculate by examination but are recommended for the examination of the First Year in Arts by an affiliated College, the standing of the First Year in Arts may be accepted in lieu of Medical Matriculation.

NOTE 3.—A Matriculation certificate of any University recognized by the University of Manitoba will be accepted in lieu of Medical Matriculation.

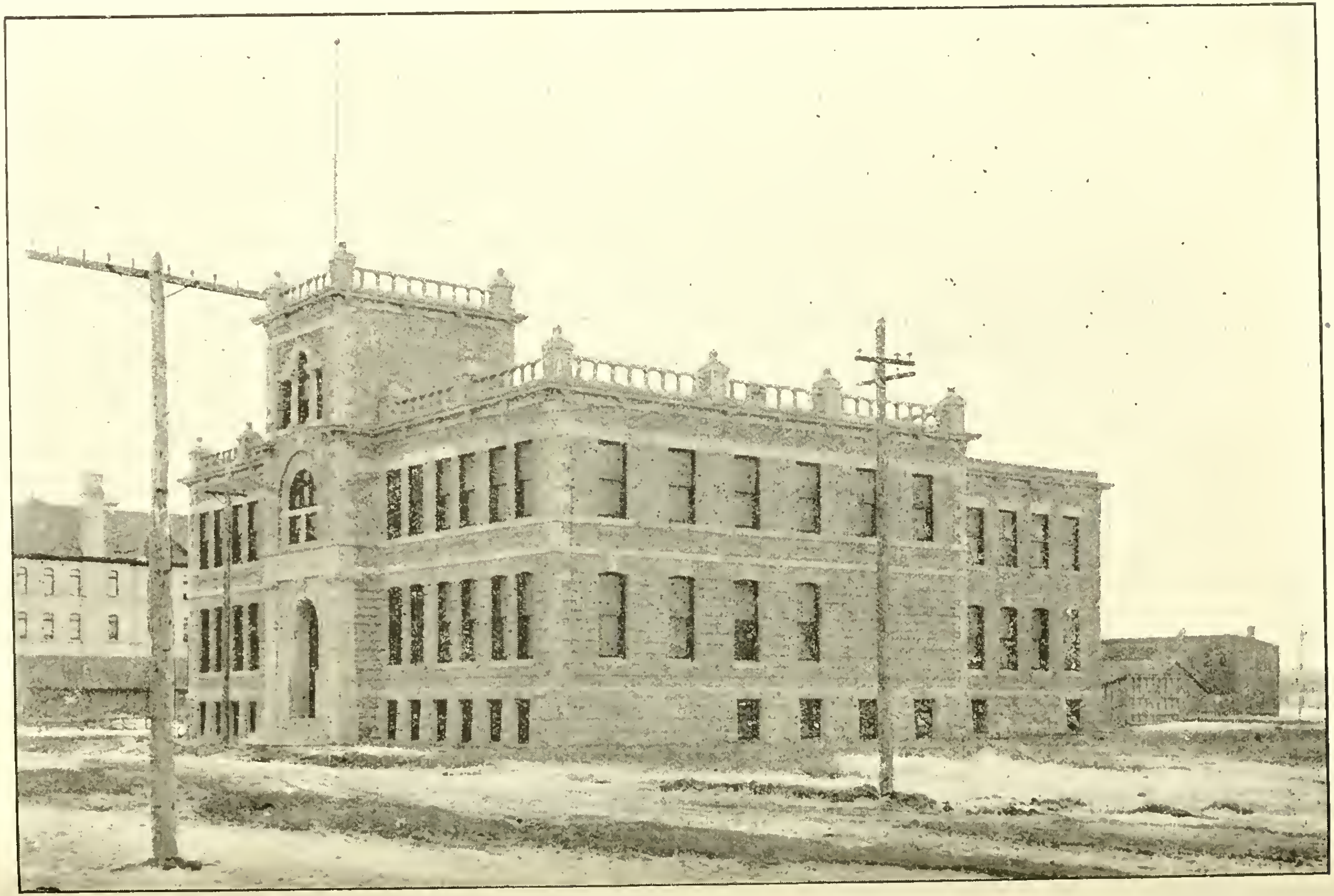
NOTE 4.—Provincial Department of Education certificates of the Dominion of Canada will be accepted pro tanto towards Medical Matriculation.

For details see pages 223 and 224.

UNDERGRADUATE COURSE IN MEDICINE.

After having matriculated, the student of Medicine is required to pass five examinations before being admitted to the degree of Doctor of Medicine, viz., the First, the Second, the Third, the Fourth and the Fifth Year examinations.

Before presenting himself for each of these examinations, the candidate shall produce sufficiently certified tickets, from some University, College or School, recognized by the University of Manitoba, for the courses of lectures specified hereinafter; or, he shall have taken to the satisfaction of the Pro-



fessor concerned the courses of lectures, demonstrations, laboratory practice, etc., of the University of Manitoba in those subjects in which the University has undertaken to provide instruction, and shall provide sufficiently certified tickets from some university, college or school, recognized by the University of Manitoba, for the remaining courses of lectures specified hereinafter. The Manitoba Medical College, in affiliation with the University of Manitoba, provides instruction and facilities for laboratory and clinical practice in all subjects not undertaken by the University.

By *sufficiently certified* tickets, it is meant that each ticket shall have entered upon it the number of lectures delivered on the subject and the exact number of lectures attended by the student, and that each ticket shall be signed by the professor, and further that the student presenting the ticket shall have actually attended three-fourths of the whole number of lectures delivered on the subject. Such tickets must be lodged with the Registrar by the candidate, at least ten days before the beginning of the examination for which he intends presenting himself.

Each lecture (unless otherwise stated) shall be of one hour's duration, and, as far as practicable, not more than one lecture on each subject shall be delivered on each separate day.

First Year Examination.

1. Physics (a course of 70 lectures). Instruction in Physics is provided by the University (see Course 1, page 126.) Two examinations are given, corresponding to Parts I. and II. of the course. A failure in either paper or in both counts as one failure in determining a candidate's standing. A candidate failing in but one paper is required to take a supplemental examination only in the paper in which he has failed.

2. Zoology (a course of 50 lectures). Instruction in Zoology and Practical Zoology is provided by the University. See Course 2, page 151.

3. Practical Zoology (a course of 25 periods of two hours each).

4. Chemistry (a course of 50 lectures). Instruction in Chemistry and Practical Chemistry is provided by the University. See pages 138 to 139 and 142.

5. Practical Chemistry (a course of 50 periods of two hours each).

6. Anatomy (1 course of 50 demonstrations).

7. Practical Anatomy (Upper and Lower Extremity and Thorax).

Second Year Examination.

1. Anatomy (a further course of 50 demonstrations).

2. Practical Anatomy (the whole body).

3. Organic Chemistry (a course of 20 lectures). Instruction in Organic Chemistry is provided by the University. See page 147. No examination is set.

4. Physiology (a course of 50 lectures). Instruction in Physiology and Practical Physiology is provided by the University. See pages 143 to 145 and 147 to 148.

5. Practical Physiology (a course of 50 periods of 2 hours each).

6. Materia Medica and Pharmacy (a course of 30 lectures).

7. Sanitary Science (a course of 25 lectures).

8. Histology (a course of 25 demonstrations). Instruction in Histology and Practical Histology is given by a University Professor in Manitoba Medical College Building. See Course 1, page 195.

9. Practical Histology (a course of 50 periods of 2 hours each).

10. Embryology and Morphology (a course of 30 lectures).

Third Year Examination.

1. Anatomy, Applied (a course of 35 demonstrations).

2. Physiology (a further course of 50 lectures). Instruction in Physiology and Practical Physiology is provided by the University. See pages 145 to 148.

3. Practical Physiology (a further course of 50 periods of 2 hours each).

4. Therapeutics (a course of 50 lectures).

5. Medical Jurisprudence (a course of 15 lectures).

6. Pathology (a course of 50 demonstrations). Instruction in Pathology and Practical Pathology is given by a University Professor in Manitoba Medical College Building. See Course 2, page 195.

7. Practical Pathology (a course of 50 periods of 2 hours each).

8. Practical Pharmacology (a course of 20 demonstrations of two hours each.

9. Physical Diagnosis (Outdoor), (a course of 25 demonstrations).

10. Splints and Bandaging (Out-door), (a course of 25 demonstrations).

No examination is required in Physical Diagnosis and Splints and Bandaging.

Fourth Year Examination.

1. Bacteriology (a course of 25 demonstrations). Instruction in Bacteriology and Practical Bacteriology is given by a University Professor in Manitoba Medical College Building. See Course 3, page 195.

2. Practical Bacteriology (a course of 25 periods of 2 hours each).

3. Medicine, Part I. (a course of 50 lectures).

4. Surgery, Part I. (a course of 50 lectures).

5. Clinical Medicine (a course of 75 lectures).

6. Clinical Surgery (a course of 75 lectures).

7. Obstetrics (a course of 30 lectures).

8. Clinical Obstetrics.

9. Gynæcology (a course of 35 lectures).

10. Pediatrics (a course of 25 lectures).

11. Anaesthetics (a course of 10 lectures or demonstrations).

No examination is required in this year in Clinical Medicine, Clinical Surgery and Anaesthetics.

Fifth Year Examination.

1. Medicine, Part II. (a further course of 50 lectures).

2. Surgery, Part II. (a further course of 50 lectures).

3. Clinical Medicine (a further course of 75 lectures).

4. Clinical Surgery (a further course of 75 lectures).

5. Obstetrics (a further course of 20 lectures).

6. Clinical Obstetrics.

7. Clinical Gynæcology.

8. Ophthalmology and Otology (a course of 20 lectures and 20 practical demonstrations).

9. Operative Surgery (a course of 25 practical demonstrations).

10. Orthopedic Surgery (a course of 25 lectures or demonstrations).

(NOTE.—The examinations in Medicine and Surgery cover both Fourth and Fifth Year work. Orthopedic Surgery is included in the examination on General Surgery.)

Each candidate for this examination shall also furnish documentary evidence of attendance for twenty-four months at some incorporated General Hospital, and also of eight months' practice in a Lying-in Hospital, or of having had equivalent obstetrical advantages, with a certificate of attendance upon at least eight cases of labor. He must also present twelve satisfactory reports of cases, six in Medicine and six in Surgery, from observations actually made by himself in a hospital having not less than fifty beds for public ward patients. These reports must be certified as valid by the chief medical officer of the hospital in which they are made.

The tickets (except the General Hospital ticket) for examination must all be for attendance subsequent to the date when the candidate presenting them has gone up for his Second Year examination, and must extend over two full winter sessions of seven months each.

FOUR YEAR COURSE FOR GRADUATES IN ARTS.

When a student is a graduate in Arts of the University of Manitoba or of any University in His Majesty's Dominions or elsewhere, recognized by the University of Manitoba, he may complete his medical course in four winter sessions of seven months each, and shall not be required to produce a ticket for Physics, Zoology, Chemistry, Practical Chemistry, or to pass an examination in Physics, Zoology, Chemistry, or Practical Chemistry of the First Year, provided he shall satisfy the Board of Studies that he has already taken at least second class honors in such subjects in his course in Arts in the University of Manitoba, or equivalent standing in the University in which his Arts course was taken.

The tickets of such student in Medicine, Surgery, Obstetrics and Pediatrics, Gynæcology, Clinical Medicine, Clinical Surgery, and Pathology, must all be for attendance subsequent to the end of his second full winter session spent in the study of Medicine. Honor graduates in Natural and Physical Science shall not be required to present tickets, or pass an examination in any subjects included in their course in Arts, in which they have obtained at least second class honors.

A graduate in Arts may take the examination papers of the First, Second and Third Years in Medicine at such time as he can present sufficiently certified tickets in each subject during the first two years of his course.

ADMISSION AD EUNDEM STATUM.

A student of Medicine in another University may be admitted *ad eundem statum* in the course in Medicine in the University of Manitoba. See page 224.

In the case of any student from another university applying for admission *ad eundem statum* in the University of Manitoba, it shall be at the option of the Board of Studies to admit such student, even although his tickets may conflict with the foregoing regulations, but no student from another university can be admitted to the Fifth Year Examination unless he has attended one full seven months' winter session, taking out all the Fifth Year tickets of a Medical School in the Province of Manitoba affiliated with the University.

EXAMINATIONS IN MEDICINE.

There is provided one paper for Pass and Honors in each subject, and the total value of each paper is one hundred marks. Fifty per cent. of the marks in each subject is required to satisfy the examiners.

The examinations are written examinations, except in clinical and practical subjects.

To obtain Honors in each subject, or in the whole examination, of any year, a candidate must obtain 67 per cent. of the marks given in each subject, or of the total marks given for the examination of the year.

Supplemental examinations in each year in Medicine will be allowed to those students who fail in not more than two subjects.

Such supplemental examinations or conditions *must* be removed as follows:

(a) Supplemental examinations of the First Year must be removed before the commencement of the Third Year.

(b) Supplemental examinations of the Second Year must be removed before the commencement of the Fourth Year.

(c) Supplemental examinations of the Third Year must be removed before the commencement of the Fifth Year.

For more detailed information as to supplemental examinations see pages 219 to 223.

All degrees in Medicine are conferred by the Council of the University at its regular meetings or at meetings specially called for that purpose.

TEXT-BOOKS IN MEDICINE.

Anatomy—

Cunningham's Manual of Practical Anatomy.
Cunningham's Text-book, 3rd edition.
Gray's Anatomy.
Morris' Anatomy.
Quain's Anatomy.
Weidersheim's Structure of Man.
McLachlan's Applied Anatomy.
Treves' Surgical Applied Anatomy.
Bickham's Surgical Operations.

Anaesthetics—Hewitt, Luke, Boyle.

Bacteriology—McFarland, Connell, Jordan, Muir and Ritchie, Park.

Chemistry—

Smith's General Chemistry for Colleges.
Bunge's Organic Chemistry for Medical Students.

Clinical Medicine—

Wilson's Medical Diagnosis.
Webster's Diagnostic Methods.
DaCosta's Physical Diagnosis.
Simon and Wood's Clinical Diagnosis.
Sahli's Diagnostic Methods.

Clinical Surgery—Pearce Gould, Eisendrath.

Dermatology—Jackson.

Diseases of Children—Fruhwald (Westcott), Koplik, Fischer, Holt.

Gynaecology—Dudley, Garrigues, Penrose, Ashton, Boyce.

Histology—Stohr, Piersol, Schafer.

Hygiene—Egbert, Parkes, Rohe, Harrington, Stevenson and Murphy.

Materia Medica and Pharmacy—Bruce, Cushney, Schlief, Sollman.

Medical Jurisprudence—Reese, Draper, Mann, Emerson.

Medicine—Osler, Tyson, Edwards, French.

Mental Diseases—Clouston.

Obstetrics—Williams, Wright, Jellett, Hirst, Tweedy and Wrench.

Ophthalmology—Fuchs, May, Wood and Woodruff.

Orthopedic Surgery—Taylor, Bradford and Lovett, Whitman.

Otology—Dench, Bacon, McBride.

Pathology—Stengel, Coplin, Delafield and Prudden, Fraught's Laboratory Diagnosis.

Physics—Principles of Physics, A. P. Gage (Revised edition).

Physiology—

Schafer's Practical Physiology.
Aders Plimmer's Practical Physiological Chemistry.
Starling, Stewart, Howell, Haliburton.

Practical Pharmacology—Edmunds and Cushny.

Surgery—Rose and Carless, International Text Book, Stewart, Foote's Minor Surgery, Keen's System of Surgery.

Therapeutics—Sollmann, Brunton, Bruce's Principles of Treatment.

Throat and Nose—Coakley, McBride.

Zoology—Marshall's The Frog, Parker's Zootomy, Beddard's Elementary Practical Zoology.

Dictionaries—Gould, Appleton.

FEES.

Registration and tuition fees are payable to the Bursar of Manitoba Medical College. For information as to these the student or prospective student is referred to the calendar of that institution. Examination and degree fees are payable to the Registrar of the University. For the amount of these, see pages 243 and 244.

II.—MASTER OF SURGERY.

Candidates for the degree of Master of Surgery (C.M.) must have been admitted already to the degree of Doctor of Medicine of the University of Manitoba, or must, at the same examination at which they become candidates for the C.M. degree, be awarded standing on the final examination of the course for the degree of Doctor of Medicine.

The examination for the C.M. degree consists of:

1. A clinical examination on Operative Surgery.

2. The writing under supervision of a Thesis on some assigned subject in Surgery.

The successful candidate must obtain 75% of the total marks in this examination.

For the fee in connection with this examination see page 244.

University Departments of Instruction in Medicine

DEPARTMENT OF PHYSICS.

See Department of Physics under University Departments of Instruction in Arts, pages 126 to 130.

DEPARTMENT OF CHEMISTRY.

See Department of Chemistry under University Departments of Instruction in Arts, pages 138 to 142.

DEPARTMENT OF PHYSIOLOGY.

See Department of Physiology under University Departments of Instruction in Arts, pages 143 to 150.

DEPARTMENT OF ZOOLOGY.

See Department of Zoology under University Departments of Instruction in Arts, pages 150 to 152.

DEPARTMENT OF BACTERIOLOGY, PATHOLOGY AND HISTOLOGY.

Gordon Bell, B.A., M.D., C.M.......................................*Professor*

Course 1

Histology.

This course is for students of the Second Year in Medicine and consists of 25 didactic lectures and 100 hours' laboratory work.

Full instruction will be given in laboratory technique, and each student is required to prepare, stain and mount a full set of specimens for himself.

An excellent projective apparatus is provided for demonstrating specimens.

Course 2.

Pathology.

This course is for Third Year students in Medicine, and consists of 50 didactic lectures and 100 hours' laboratory work devoted to preparation and examination of pathological tissues, demonstration of gross specimens, examination of secretions and excretions, etc.

Students are required to prepare autopsies in rotation as opportunity presents.

Course 3.

Bacteriology.

This course is for Fourth Year students in Medicine, and consists of 25 didactic lectures and 50 hours' laboratory work. It is devoted to preparation of culture media, staining and identification of bacteria, culture methods, animal inoculation, and vaccine therapy immunity.

Curriculum in Law

CURRICULUM IN LAW

The University of Manitoba confers one degree in Law, viz., Bachelor of Laws (LL.B.). The following are the requisites for proceeding in course to this degree.

BACHELOR OF LAWS

MATRICULATION.

The subjects of this examination are the same as those of the matriculation examination for the course in Arts of the University of Manitoba; the same standard is required to entitle the candidate to pass, and the same regulations obtain regarding failures, conditions, etc. (See page 47.)

NOTE 1.—A candidate who presents documentary evidence to the Registrar that he has passed the Primary and First Intermediate Examinations of the Law Society of Manitoba, or of such other Law Society as the Board of Studies may from time to time recommend, may be admitted to the Course in Law without having passed the Matriculation Examination.

NOTE 2.—Any person who is a graduate in Arts of any University in His Majesty's Dominions, or who has been admitted a Barrister or Solicitor by the Law Society of Manitoba, or by any Law Society recognized by the University of Manitoba, may enter the Course in Law at the Examination of the Second Year.

COURSE IN LAW.

After having matriculated, the student of the course in Law must pass in separate years three examinations, before being admitted to the degree of Bachelor of Laws, viz., the First, the Second, and the Third Year examinations, as set forth hereunder:

First Year.

1. CREIGHTON.—Logic.
2. STOUT.—Psychology.
3. BAGEHOT.—English Constitution.

4. O'Sullivan's Canadian Manual.—Civil Polity.

5. Taswell-Langmead.—Constitutional History.

6. Williams.—Real Property.

7. Anson.—Contracts.

8. Deans.—The Student's Legal History.

9. Street.—Foundations of Legal Liability, Vol. I. (Tort.)

Second Year.

1. May.—Constitutional History.

2. Todd.—Parliamentary Companion for the Colonies.

Or Tarring.—The Law Relating to the Colonies.

3. MacKenzie.—Roman Law.

4. Best.—Law of Evidence.

5. Ratcliffe and Miles.—Cases Illustrating Principles of the Law of Torts.

6. Leith.—Blackstone (Armour's Edition).

7. Dicey.—Conflict of Laws.

8. Snell.—Equity.

9. Street.—Foundations of Legal Liability, Vol. II. (Contract).

Final Year.

1. Clement.—The Law of the Canadian Constitution

2. Hall.—International Law.

3. Holdsworth.—A History of English Law, Vol. I.

4. Broom.—Constitutional Law.

5. MAINE'S ANCIENT LAW.—Jurisprudence.

6. SMITH.—Mercantile Law, Vol. I.

7. DICEY.—The Law of the Constitution.

8. STREET.—Foundations of Legal Liability, Vol. III. (Actions).

The University offers at present no instruction in the subjects of the course in Law. Annual examinations are provided, commencing on the third Monday in April, as in the case of the examinations in Arts.

The percentages required in the examinations in Law are the following: 34 per cent. on each subject; 50 per cent. on the total.

Supplemental examinations in Law are allowed to those students who fail in not more than two subjects, providing their aggregate on the whole examination reaches 50 per cent. of the total marks given; such supplemental examinations must be passed as provided in the case of conditioned students in Arts. (See pages 222 to 223.) Supplemental examinations may be written at the time of the annual examinations in April, or at the time of the annual Supplemental Examinations, which begin on the third Thursday in September.

DEGREE.

The degree of Bachelor of Laws is conferred on the student who has successfully completed the above course. All degrees in Law are conferred by the Council at its regular meetings, or at meetings specially called for that purpose.

NOTE.—The candidate for admission to the degree of Bachelor of Laws must be of the full age of twenty-one years.

For the fees in connection with the above course see pages 243 and 244.

Curriculum in Agriculture

CURRICULUM IN AGRICULTURE

The University of Manitoba confers a degree in Agriculture, viz., Bachelor of Science in Agriculture (B.S.A.). The following are the requisites for proceeding in course to this degree.

BACHELOR OF SCIENCE IN AGRICULTURE

Instruction in Agriculture is given in Manitoba Agricultural College. The course for the degree of Bachelor of Science in Agriculture extends over a period of five winter sessions of five months each (November 1st to the following April 1st, approximately). The first two years of the course are the same as those of the regular course offered by the Manitoba Agricultural College to the young farmer who is ambitious to improve his education and to learn more scientific methods of agriculture. At the conclusion of these two years, the examinations of which are conducted by Manitoba Agricultural College, a diploma is granted by that institution.

A candidate for admission to the Third Year must hold a diploma from Manitoba Agricultural College or its equivalent, and must have satisfied the faculty of his ability to proceed with the higher work leading to the degree.

OUTLINE OF COURSE.

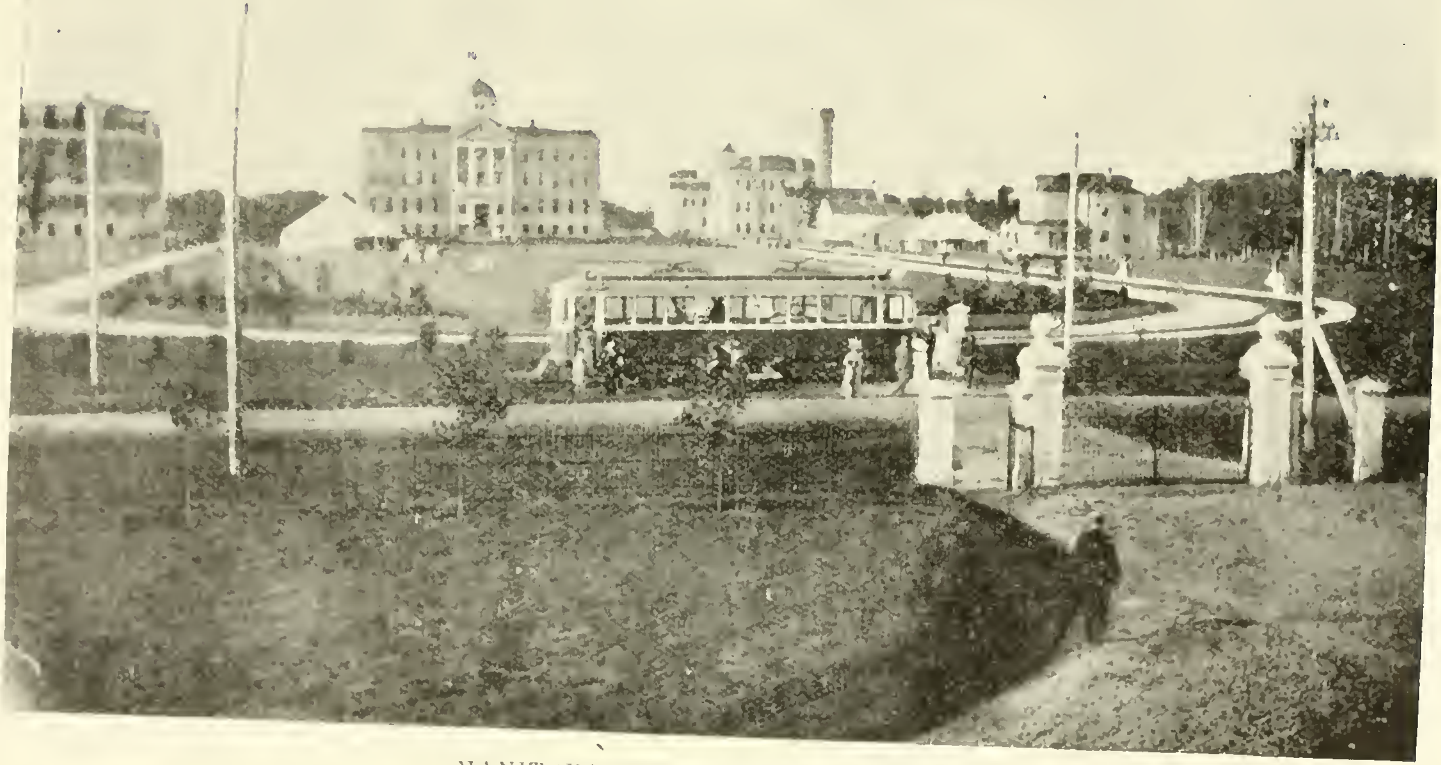
First and Second Years.

See calendar of Manitoba Agricultural College.

Third Year.

(The attention of prospective Third Year students is drawn to the regulation governing entrance to the advanced course, which begins with the work of this year, viz., that they must have satisfied the faculty of their ability to proceed with the higher work. It is therefore necessary that their applications be presented early, so that they may be passed upon before the opening of the college session.)

1. Field Husbandry.



MANITOBA AGRICULTURAL COLLEGE

2. Agricultural Chemistry.
3. Animal Husbandry.
4. Dairy Husbandry.
5. Horticulture and Forestry.
6. Botany.
7. Animal Biology.
8. English.
9. Physics—Geology, Meteorology, Heat.
10. Veterinary Science.
11. Agricultural Engineering—Mechanics and Drawing.

After completing the first three and a half years of the course, that is to say, in the middle of the Fourth Year, the student is called on to elect one of the following courses in which he will specialize and thus proceed to the degree:

(a) Field Husbandry and Animal Husbandry.

(b) Dairying.

(c) Agricultural Engineering.

Students taking the Field Husbandry and Animal Husbandry Course must spend between their Second and their Fifth Years at least six summer months in practical work on a farm. Those taking the Dairying Course must spend one summer in practical work in a creamery or cheese factory. Those taking the course in Agricultural Engineering must spend a summer with an agricultural implement firm or in work along some agricultural machinery line that is acceptable to the College Department of Agricultural Engineering.

Fourth Year.

COURSE IN ANIMAL HUSBANDRY AND FIELD HUSBANDRY.

1. Field Husbandry.

2. Animal Husbandry.
3. Chemistry.
4. Forestry and Entomology.
5. Botany and Bacteriology.
6. English.
7. Physics—Climatology, Drainage, Magnetism and Electricity.
8. Civics.
9. Surveying and Drawing.

Fourth Year.

Course in Dairying.

1. Animal Husbandry in relation to Dairying.
2. Field Husbandry in relation to Dairying.
3. Dairy Chemistry.
4. Dairy Husbandry.
5. Dairy Bacteriology.
6. English.
7. Physics—Climatology, Meteorology and Drainage.

Fourth Year.

Course in Agricultural Engineering.

1. Mechanical Drawing.
2. Work in Machine Shop.

3. Surveying.
4. Chemistry.
5. Electricity and Magnetism.
6. English.
7. Mathematics—Algebra and Geometry.
8. Engineering—Lectures and Outside Reading.

Fifth Year.

COURSE IN ANIMAL HUSBANDRY AND FIELD HUSBANDRY.

1. Field Husbandry.
2. Animal Husbandry.
3. Chemistry.
4. Entomology.
5. Biology—Botany, Plant Pathology, Bacteriology.
6. English.
7. Physics—Advanced Soil Physics.

Fifth Year.

COURSE IN DAIRYING.

1. Animal Husbandry in relation to Dairying.
2. Field Husbandry in relation to Dairying.
3. Dairy Chemistry.
4. Dairy Husbandry.
5. Dairy Bacteriology.

6. English.

7. Physics—Climatology, Meteorology and Drainage.

Fifth Year

COURSE IN AGRICULTURAL ENGINEERING.

(Not yet outlined.)

NOTE 1.—For a detailed outline of the Courses in Agriculture, see the Calendar of Manitoba Agricultural College.

NOTE 2.—Before students present themselves for the annual examinations, they must have satisfied the Faculty of Manitoba Agricultural College that they have attended a sufficient number of lectures to entitle them to write.

Miscellaneous Curricula

CURRICULUM IN PHARMACY

The University of Manitoba confers the degree of Bachelor of Pharmacy (Phm.B.). The following are the requisites for proceeding in course to this degree.

BACHELOR OF PHARMACY.

Matriculation.

Candidates for the degree of Bachelor of Pharmacy must either:

1. Have passed a Matriculation Examination accepted by the University of Manitoba; or

2. Be the holders of such other certificates as in the opinion of the University may be equivalent thereto.

Additional Preliminary Requirements.

A—Candidates for the degree resident in the Province of Manitoba must have complied with all the requirements prescribed from time to time by the Council of the Pharmaceutical Association of Manitoba for admission to examination for the diploma licensing to practice Pharmacy in Manitoba.

B—Candidates for the degree not resident in the Province of Manitoba:—

(1) Must have devoted at least four years (not being engaged in any other business) to the study of Pharmacy, being apprenticed during that time, to a regular Pharmaceutical Chemist.

(2) Must have attended a full course of lectures, embracing all the subjects of the curriculum, the length of each course being not less than that required from time to time by the Council of the Pharmaceutical Association of Manitoba, and including practical work at some College of Pharmacy recognized by this University.

All candidates who have, prior to June 1, 1905, received the diploma of the Manitoba College of Pharmacy, shall not be required to conform to the above, but shall be allowed their degrees on passing the examination in the subjects hereinafter given.

Examinations.

Candidates for the degree must pass an examination to be held in the month of May of each year, and must present to the Registrar of the University certificates covering all the requirements relating to such candidates as given above.

The subjects for this examniation are as follows:

(a) Botany, with use of the microscope.
(b) Theoretical and Practical Chemistry.
(c) Physics.
(d) Materia Medica, and Toxicology.
(e) Theory and Practice of Pharmacy, including interpretation of Prescriptions and Dispensing.

These examinations are partly written and partly practical.

No candidate is considered as having passed the examination who has not obtained 67 per cent. of the marks allotted; nor is a candidate considered as having passed in any subject who has not obtained at least 50 per cent. of the marks allotted to such subject.

The examination in Botany is that of the Second Year in Arts, the examination in Theoretical Chemistry is that of the Second Year in Arts, and the examination in Physics is that of the First Year in Arts of the University of Manitoba. Candidates for the degree must have attended the University letures in these subjects during a full annual session before presenting themselves for examination.

Fees.

For Matriculation or registration of Matriculation	$ 5 00
For Tuition (each course of study)	8 00
For annual Examination	8 00
For the Degree of Phm. B.	10 00

The course of studies leading up to License in Pharmacy, and the regulations concerning length of apprenticeship, etc., are outlined in the announcement of the Manitoba College of Pharmacy.

CURRICULUM IN COMMERCIAL EDUCATION

Candidates for the Diploma in Commercial Education must either:—

1. Have passed the Matriculation Examination required by the University of Manitoba; or

2. Be the holders of such other certificates as in the opinion of the University may be equivalent thereto;

and have complied with the other requirements hereinafter specified.

Matriculation.

Candidates for this examination shall take the following fixed subjects:

English,
History,
Mathematics;

and any two of the following options:

Latin,
French,
German.

The requirements in each of these subjects shall be the same as those for the Matriculation in Arts, and the same standard shall be required to entitle the candidate to pass. (See pages 28 to 42.)

Course of Study.

After fulfilling the requirements in reference to the Matriculation Examination, the candidate shall complete a course of two years' duration. A diploma shall be given to those who are successful in passing an examination in the prescribed subjects.

First Year Examination.

1. English,—as of the First Year in Arts.

2. French or German.—as of the First Year in Arts.

3. Modern History and Geography—"Colonies and Colonial Federations," ed. E. J. Payne. (Macmillan & Co. The English Citizen Series.)

4. Economic History—Clive Day—"History of Commerce."

5. Political Economy—Seager—"Introduction to Economics."

Second Year Examination.

1. English,—as of the Second Year in Arts.

2. French or German,—as of the Second Year in Arts.

3. Political Economy,—J. S. Mill—"Principles of Political Economy." (Ed. Ashley, 1909.)

4. Commercial Law and Science.

The time of the examinations shall be the same as that of the examinations in Arts in each year.

EXTENSION COURSES

I. ENGLISH LITERATURE.

A course of some twenty-five lectures in English Literature is given by Professor A. W. Crawford on Saturday mornings, at 10 o'clock, and on Tuesday evenings at 8 o'clock, throughout the session. The Tuesday evening lecture is a repetition of that given on the preceding Saturday morning. It is intended especially for teachers and students of the Provincial Normal School, but is open to all others who are qualified to do the work. It consists of exposition, interpretative readings and discussions of the methods of teaching literature. Each year one or more great authors will be studied, and the courses are so arranged in rotation that they will furnish a comprehensive acquaintance with the best English literature to those who follow them for a number of years. The following indicates the range of work:

1909-1910—Shakespeare.

1910-1911—Tennyson.
Browning.

1911-1912—Chaucer (Clarendon Press): Canterbury Tales, (a) The Prologue, (b) The Knight's Tale.
Spenser (Clarendon Press): The Faerie Queene, Book I.
Milton (Globe Edition): L'Allegro; Il Penseroso; Comus; Lycidas; Paradise Lost, Books I.-IV.

1912-1913—(To be announced later by the University and in the bulletins of the Manitoba Department of Education).

An examination is provided on the course each year at the time of the undergraduate examinations in Arts. Two examination papers are set. The taking of the examination is voluntary.

(Note.—The Department of Education accepts from women students, holding Second-class Teachers' Certificates, a satisfactory examination on the work of any year of the above course, in lieu of the Mathematics ordinarily prescribed for the

First-class Teachers' Non-Professional Examination. In such cases candidates are given papers, reviewing the Mathematics prescribed for the Second-class Teachers' Non-Professional Examination.)

II. POLITICAL ECONOMY.

An evening course of some twenty-five lectures on Political Economy will be given by Professor A. B. Clark on a day and at an hour to be announced. It is especially designed to meet the needs of teachers, bankers, lawyers, accountants and others engaged in business in the city.

The lectures will include a discussion of the leading principles of Political Economy and their application to present day problems of industry and commerce, as in the following synopsis:—

1. INTRODUCTORY.—Character and Scope of Political Economy; Wealth; Economic Laws; Relation of Economic Science to Practice.

2. PRODUCTION.—Its Essence; Its Relation to Consumption; Law of Diminishing Utility; Agents of Production—Nature, Labor, Capital; Causes Determining the Productiveness of Industry; Laws of Diminishing and Increasing Return; Growth of Material Capital.

3. DISTRIBUTION.—Private Property; Property in Land; Socialism; Wages, Interest, Profits, Rent; Influence of Trade Unions and Trusts.

4. EXCHANGE.—Theory of Value, Demand and Supply, Market and Normal Value, Relation of Rent to Value, Monopoly Value; Money—Its Functions, Standard and Token Money, Mint Price and Market Price of Gold, Gresham's Law; Money and Prices—The Quantity Theory; Inconvertible Paper Currency; Credit—Its Forms and Its Basis; Banking—Its Historical Development, Regulation of Bank Note Issues, Deposit Banking, The Money Market, The Reserve, The Rate of Discount, The Foreign Exchanges, Commercial Crises; Theory of International Trade and International Values; Free Trade and Protection.

5. THE ECONOMIC FUNCTIONS OF GOVERNMENT.—Grounds and Limits of *Laisser Faire*; Public Finance—Taxation and Expenditure.

The lectures will form in themselves a course independent of any text book; but Walker's *Political Economy,* or Seager's *Introduction to Economics,* will be found useful for supplementary reading. References to these works, and others in special departments of Economics, will be given, from time to time, throughout the course.

III. NATURE STUDY.

A course of about twenty-five lectures on Nature Study will be given by Dr. C. J. Triggerson on a day and at an hour to be announced. It is designed particularly for teachers, but is open to all qualified to do the work. The topics offered will include a careful study of the structure, habits, food, life-histories, and economic importance of spiders, insects, birds, and the more familiar animals, with special reference to the forms common to this province. When possible, field trips will be conducted to study the forms in their natural habitat. The following indicates in general the work to be covered:

1911—ENTOMOLOGY.—Spiders, Mites, Mayflies, Dragonflies, Cockroaches, Crickets, Grasshoppers, Aphids, Aphis-lions, Antlions, Giant Waterbugs, Clothes Moths, Indian Meal Moths, Canker Worms, Cut Worms, Sphynxes, Cabbage Butterflies, Monarchs, Mosquitoes, Houseflies, Syrpyusflies, Tachina Flies, Bulldog Flies, Cabbage-root Maggots, Onion Flies, Hessian Flies, Fleas, Blister Beetles, Colorado Potato-beetles, Lady Beetles, Water Scavenger Beetles, Carrion Beetles, Saw Flies, Greater and Lesser Wheat-stem Maggots, Braconids, Ants, Wasps, Bees, etc.

GENERAL ZOOLOGY (PART I.)—Snail, Crayfish, White Fish, Pike, Frog, Salamander, Garter Snake, Wild Duck, Hen, Gopher, Hare, Badger, Dog, Deer, Cow.

1912—GENERAL ZOOLOGY (PART II.)—Earthworm, Crayfish, Goldeye, Catfish, Toad, Turtle, Wild Goose, Grouse, Pigeon, Squirrel, Grey Rat, Cat, Coyote, Horse. This course will also include some of the more familiar Insects and Spiders.

ORNITHOLOGY.—Chipping Sparrow, English Sparrow, House Sparrow, Song Sparrow, Vesper Sparrow, White-crowned Sparrow, White-throated Sparrow, Downy Woodpecker, Hairy Woodpecker , Red-Headed Woodpecker, Flicker, Sapsucker, Pine Grosbeak, Rose-breasted Grosbeak, Crossbill, Robin, Baltimore Oriole, Meadow Lark, Bobolink, Goldfinch, Yellow Warbler, Waxwing, Hummingbird, Red-eyed Vireo, Bronzed Grackle, Red-winged Blackbird, Cat-bird, King-bird, Kingfisher, Blue-bird, Junco, Snow-bird, Grouse, Wild Duck, Wild Goose, Snipe, Sandpiper, Swallow, Sparrow-hawk, Sharp-shinned Hawk, Barn-owl, Screech-owl, Snowy Owl, Bittern, Blue Heron, Crane, etc.

(N.B.—The above courses are under consideration by the Department of Education, and their credit values will be announced later.)

Other Extension Courses will be offered from time to time as the facilities for them are provided and the need arises.

LOCAL LECTURES.

The members of the University Faculty stand ready to give a number of single lectures or short courses of lectures on literary or scientific subjects, on request, in the city of Winnipeg, or at local points outside, whenever the arrangements for such lectures do not conflict with the routine duties of University work. No charge is made for these lectures, but those arranging for them must pay the travelling and hotel expenses of the lecturers.

A pamphlet giving a list of available subjects, etc., will be issued shortly and may be obtained on application from the Registrar.

General Regulations

GENERAL REGULATIONS

REGISTRATION.

All undergraduates in Arts, Medicine and Agriculture, in attendance at the various Colleges, whether attending lectures in the University Building or not, shall register, in each year of their course, with the Registrar of the University within two weeks after entering college. Any student who neglects to register within two weeks after entering college may be subject to a fine of $2.00.

EXAMINATIONS.

Undergraduate Examinations.

1. The regular University Examinations for undergraduates in Arts, Engineering, Law, and Medicine, begin on the third Monday in April, in each year. The examinations in Agriculture begin in 1912, on March 25th.

2. Examinations in Arts up to the end of the Second Year, and in Law, may also be held at such outside centres in Manitoba, Saskatchewan, Alberta and British Columbia, as the Board of Studies may from time to time approve of; it being understood that this does not apply to the practical examinations in Arts, where such are required.

Wherever in the Provinces of Manitoba, Saskatchewan, Alberta and British Columbia, incorporated colleges have been, or may be established, the University of Manitoba, on being satisfied that their buildings are sufficient, and that the staff is competent to give instruction in the Arts course, in whole or in part, may give recognition to such institution, and on arrangements being made by candidates or otherwise to meet the necessary expenses, grant examinations to such institutions, and give university standing to successful candidates.

Matriculation Examinations.

1. The Examinations for Matriculation into all Faculties are held twice in each year, beginning on the second Tuesday in June and on the third Thursday in September.

2. The examination in June is held in Winnipeg, and on application at the following centres in connection with the College, Collegiate Institute or High School as the case may be: Portage la Prairie, Carberry, Brandon, Virden, Neepawa, Carman, Selkirk, Morden, Minnedosa, Melita, Souris, Boissevain, Deloraine, Killarney, Wawanesa, Waskada, Altona, Stonewall , Dauphin, Regina, Calgary, Edmonton, Prince Albert, Vancouver, and Victoria, and at such institutions as may from time to time be approved of by the Board of Studies.

3. *The September Examination is held at the University Building only.*

4. Application for a local examination shall be made to the Registrar of the University by the trustees or other authorities of a college or school, at least six weeks before the date of examination in each year.

5. The presiding examiner or examiners at each centre shall be appointed by the Board of Studies. Where the number of candidates exceeds fifteen there shall be at least two presiding examiners.

6. The fee for the presiding examiner or examiners at a centre shall be $2.00 per half day each, and this fee and such other expenses as may be incurred in connection with the local examination shall be paid by the authorities of the school or college on whose application the examination is held.

Supplemental Examinations.

1. Supplemental examinations are allowed those candidates in Arts, Engineering or Agriculture or in Parts I. and II. Matriculation* (any faculty) who have failed in not more than three papers, and to those candidates in Medicine, Law, or Part

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*In the case of Parts I. and II. Matriculation, a failure in both English History and Canadian History counts as but one failure in determining a student's standing on the whole examination. In the case of Part I. Matriculation, a failure in both English History and Canadian History or in both Algebra and Geometry counts as but one failure in determining a student's standing on the whole examination.

I. Matriculation* (any faculty), or Part II. Matriculation (any faculty), who have failed in not more than two papers, always provided that their average on the whole examination is such as will admit of their being granted Third Class standing, viz.:

(a) For Matriculation (any faculty), 40 per cent.

(b) For Arts and Agriculture, 40 per cent.

(c) For Law, Medicine and Engineering, 50 per cent.

2. Candidates who fail in more than three papers in Arts, Engineering, or Agriculture, or in Parts I. and II. Matriculation* (any faculty), or candidates who fail in more than two papers in Medicine, Law, or in Part I. Matriculation* (any faculty), or in Part II. Matriculation (any faculty), or candidates who fail to obtain on the average at least Third Class standing on the basis indicated above, are required to take again the full work of the year at the regular examination.

3. The Supplemental Examinations begin on the third Thursday in September in each year, and, for them, as for all other university examinations, application must be made at least thirty days in advance and on blank forms intended for the purpose, to be obtained from the Registrar.

4. The fee for a Supplemental Examination, whether for one or more papers, is $8.00.

5. In all cases, students who are required to take a Supplemental Examination and who fail to present themselves for the same at the September examination following the regular examination at which the original failure was made, must, when they present themselves for examination at a later date, accommodate themselves to any changes in the curriculum that may have been made in the meantime.

6. A condition in any subject may also be removed by writing upon the paper provided in the subject in question at any regular examination. In such a case the Supplemental Examination fee of $8.00 is required from the candidate whether or not he has paid at the same time the regular examination fee.

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* In the case of Parts I. and II. Matriculation, a failure in both English History and Canadian History counts as but one failure in determining a student's standing on the whole examination. In the case of Part I. Matriculation, a failure in both English History and Canadian History or in both Algebra and Geometry counts as but one failure in determining a student's standing on the whole examination.

7. Supplemental Examinations are held in the University Building and at Brandon College, and also at such educational institutions in the Provinces of Saskatchewan, Alberta and British Columbia as the Board of Studies may from time to time approve. The following institutions are at present approved by the University: Alberta College, Western Canada College, Columbia College, Vancouver College, and Victoria College.

Conditions of Examination.

1. Candidates for any examination must, at least thirty days before the date of the examination, make suitable application to the Registrar, from whom blank forms of application may be obtained. The required fee must accompany the application.

2. (a) No student in Arts who has registered with an affiliated college shall be entitled to present himself at any regular University examination within the academic year in which he has so registered without the written consent and approval of the head or acting head of the college in which he is registered.

(b) No student in Arts who has registered only in the University, and no student in Engineering, shall be entitled to present himself at any regular University examination within the academic year in which he has so registered, without the written consent and approval of the Chairman of the University Faculty.

(c) No student in Medicine registered in Manitoba Medical College, shall be entitled to present himself at any regular University examination within the academic year in which he has so registered, without the written consent and approval of the Dean of Manitoba Medical College.

(d) No student in Agriculture registered in Manitoba Agricultural College, shall be entitled to present himself at any regular University examination within the academic year in which he has so registered, without the written consent and approval of the Principal of Manitoba Agricultural College.

3. No one shall be permitted to present himself as a non-collegiate student at any University examination in Arts above Matriculation without giving notice to the Registrar at least six

months before such University examination, and without receiving permission from the Board of Studies to appear as a non-collegiate student.

4. Every non-collegiate candidate at any examination shall, along with his application for examination, forward to the Registrar a certificate from some clergyman or other trustworthy person, that the candidate is of good moral character.

5. All written examinations are three hours in length.*

Appeals.

1. Any candidate is at liberty to enter an appeal, within three weeks after the publication of the examination results in the public press, against the standing assigned him by the examiners and to request a revision of the marking of one or more of his papers.

2. The fee for such revision is $4.00 for one or two papers, and $2.00 for each additional paper. This fee is payable at the time the appeal is made and is not returnable in case the original marking is not sustained.

3. There is no special form of application for such revision.

Conditioned Students.

1. Candidates for matriculation into the faculties of Arts, Law and Engineering, who have failed in not more than two papers, or, having failed in three, have at a subsequent supplemental examination, passed in at least one of them,† and candidates for matriculation into the faculty of Medicine, who

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* An exception to this rule is made in the case of the papers in English History, Canadian History, Algebra and Geometry of Part I. Matriculation, for which an hour and a half only are allowed. The length of the examinations in English Prose Literature of the First and Second Years in Arts and in French Rhetorique et Literature en Prose of the same years, may also be less than three hours, at the discretion of the examiners.

† In applying this rule a failure in both English History and Canadian History, or in both Algebra and Geometry of Part I. Matriculation would count as creating but one condition, though a supplemental examination in each paper would be required to remove it.

present teachers' certificates not covering Latin, may as conditioned students proceed with their course with the view of subsequently obtaining full undergraduate standing. This regulation is subject to the limitations laid down in 3 below.

2. Candidates with undergraduate standing, who have failed in not more than two papers at the First, the Second or the Third Year examinations (or the Fourth Year examination in case of a five-year course), or who, having failed in three, have at a subsequent supplemental examination, passed in at least one of them, may as conditioned students proceed with their course with the view of subsequently obtaining full standing in their year. This regulation is subject to the limitations laid down in 3 below.

3. The following limitations are placed on the application of regulations 1 and 2 above:

(a) No student is allowed, even in the interval between the regular examination in the spring and the September examination, to have more than three conditions registered against him at any one time.

(b) Matriculation conditions must be removed before the commencement of the Second Year, First Year conditions before the commencement of the Third Year, Second Year conditions before the commencement of the Fourth Year and Third Year conditions before the commencement of the Fifth Year.

Equivalent Examinations.

1. The following examinations are accepted *pro tanto* by the University, in so far as the subjects and standing are, to the satisfaction of the Board of Studies, the same as, or equivalent to, those required by the University—but candidates offering certificates of having passed such examinations are required to make good their standing by passing in such subject or subjects not covered by their certificates, as may, in the opinion of the Board, be necessary for the completion of the examination for which such certificates are presented:

(a) Third Class Teacher's Examination for Manitoba.

(b) Second and First Class Teacher's Examinations for Manitoba.

(c) Second and First Class Teacher's Examinations for Saskatchewan and Alberta.

(d) Second and First Class Teachers' Examinations and the Junior and Senior Leaving Examinations for Ontario.

2. (a) Third Class Certificates shall be accepted *pro tanto* for subjects of Part I. of the Matriculation Examination.

(b) Second Class and Junior Leaving Certificates shall be accepted *pro tanto* for subjects of any Matriculation Examination.

(c) First Class and Senior Leaving Certificates shall be accepted *pro tanto* for subjects of the First Year in Arts and Part II. Engineering Matriculation.

3. Provincial or Departmental Certificates for any other provinces of the Dominion are granted such *pro tanto* standing as the Board of Studies may from time to time recommend.

4. Candidates presenting *pro tanto* certificates must attempt to pass at one time in all the subjects necessary to the completion of the entire examination.

5. Holders of certificates of educational value, other than those above mentioned, receive such recognition as the Board of Studies may from time to time recommend.

6. Students of recognized colleges, who are matriculated in this University, may pursue their course of study in said college and may come up to the University examinations as students of said college.

Admission Ad Eundem Statum and Ad Eundem Gradum.

Members of any other University in His Majesty's Dominions, who may apply for admission to this University, are not required to take the Entrance Examination of the Faculty to which they belong, but may be admitted *ad eundem statum* or *ad eundem gradum*, on presentation of their credentials and payment of the required fee.

ATTENDANCE ON LECTURES AND PRACTICAL WORK.

No student shall be allowed to present himself for examination in any subject in which class instruction is given, who does not present from the University Faculty, or from an affiliated college where such work is done in the college, a certificate of having attended 75 per cent. of the lectures delivered in that subject.

This regulation, however, shall not affect any non-collegiate candidates for examination in Arts, excepting in the case of the Special Courses in Natural and Physical Science, and in any other course or subject in which practical or laboratory work is required.

Courses in Medicine, Engineering and Agriculture may not be taken by non-collegiate students.

No student shall be allowed to present himself for examination in the above-mentioned science subjects or in mathematics unless he has satisfactorily carried out and recorded the minimum of practical work in each subject decided upon by the University Faculty, subject to the approval of the Board of Studies; the scheme of practical work to be announced at the beginning of each session. This regulation shall apply to all classes of students, whether of Arts, Engineering, or Medicine, doing practical work under the direction of the University Faculty.

PRIZES AND SCHOLARSHIPS.

The Prizes and Scholarships hereinafter mentioned are provided from the endowment fund presented to the University in accordance with the will of the late Dr. A. K. Isbister.

Matriculation, Part I.

Prizes shall be awarded at the June examinations of each year to pupils of any school, not being an affiliated college, in the Province, as follows:

(a) These prizes, to be called Isbister Prizes, shall be five in number, of the value of $20.00 each, and shall be awarded to the five candidates standing first on the aggregate of the marks of all papers on the fixed subjects of Part I. of the Matriculation Examination in Arts or Law of the University of Manitoba, or on the corresponding subjects of Part I. of the Matriculation in Medicine or Engineering.

One of these prizes shall be awarded to French-speaking students. In the event, however, of no French-speaking student qualifying for a prize, all five prizes may be awarded to English-speaking candidates.

(b) Any successful candidate for one of these prizes must send in to the Registrar of the University a certificate of his having been in attendance at a public or private school, not being an affiliated college, in the Province of Manitoba, for the greater part of the preceding school year.

Scholarships shall be awarded to students of the University as follows:

Matriculation, Part II.

(a) At Part II. of the Matriculation Examination, four scholarships of $60.00 each shall be awarded to the four candidates ranking highest on the Latin and Mathematics papers of the examination.

Two scholarships of $40.00 each shall be awarded to the two English-speaking students ranking highest on the English, and one scholarship of $40.00 to the French-speaking student ranking highest on the French papers of his course.

One scholarship of $30.00 shall be awarded to the student ranking highest on the Greek papers of the examination.

One scholarship of $30.00 shall be awarded to the student ranking highest on the French and German papers of the course for English-speaking students of the examination.

(b) At the examination of the First Year in Arts, four scholarships of $60.00 each shall be awarded to the four candidates ranking highest on the Latin and Mathematics papers of the examination.

Two scholarships of $40.00 each shall be awarded to the two English-speaking students ranking highest on the papers in English, and one scholarship of $40.00 to the French-speaking student ranking highest on the papers in French of his course at the examination.

One scholarship of $40.00 shall be awarded to the student ranking highest on the Greek papers of the examination.

One scholarship of $40.00 shall be awarded to the student ranking highest on the French papers of the course for English-speaking students of the examination.

One scholarship of $40.00 shall be awarded to the student ranking highest on the German papers of the course for English-speaking students of the examination.

One scholarship of $40.00 shall be awarded to the student ranking highest on the papers on Physics of the examination.

One scholarship of $20.00 shall be awarded to the English-speaking student ranking highest, and one scholarship of $20.00 to the French-speaking student ranking highest on the History paper of the examination.

One scholarship of $20.00 shall be awarded to the student ranking highest on the papers in Icelandic of the examination.

Second Year, Arts.

(c) At the examination of the Second Year in Arts, four scholarships of $60.00 each shall be awarded to the four English-speaking students ranking highest on the English, Philosophy, Latin and History papers of the examination, and one scholarship of $60.00 to the French-speaking student ranking highest on the French, Philosophy, Latin, and History papers of the examination.

One scholarship of $40.00 shall be awarded to the student ranking highest on each of the following subjects of the examination:—

Greek, English, French (for English-speaking students), English (for French-speaking students), German, Mathematics, Chemistry.

One scholarship of $20.00 shall be awarded to the student ranking highest on the papers in Icelandic.

Third Year, Arts.

(d) At the examination of the Third Year in Arts, one scholarship of $150.00 and one of $100.00 shall be awarded to the students ranking first and second respectively, on the aggregate of the papers in each of the following courses: (1) General Course*; (2) Classics; (3) Philosophy (English); (4) Philosophy (Latin); (5) Mathematics.

One scholarship of $100.00 shall be awarded to the student ranking first on the aggregate of the papers in each of the following courses: (1) Natural and Physical Science, Division A; (2) Natural and Physical Science, Division B; (3) Natural and Physical Science, Division C; (4) Natural and Physical Science, Division D.

One scholarship of $150.00 and one of $100.00 shall be awarded to the students ranking first and second respectively on the aggregate of the papers in each of the following subjects or groups of subjects: (1) English; (2) French and German; (3) History; (4) Political Economy.

One scholarship of $30.00 shall be awarded to the student ranking first on the paper in Hebrew at this examination.

Engineering.

(e) At the examination of the First Year of the Civil and Electrical Engineering Course (common), a scholarship of $60.00 shall be awarded to the student ranking first on the aggregate of the marks on all subjects of the examination.

At the examination of the Second Year of the Civil and Electrical Engineering Course (common), a scholarship of

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* In the award of scholarships in the General Course, all five subjects shall be taken into account, according to the following method: The percentage of the highest candidate in each subject shall be raised to 100, and that of each of the other candidates in proportion, and the scholarships awarded on the basis of the totals of these raised percentages.

$60.00 shall be awarded to the student ranking first on the aggregate of the marks on all subjects of the examination.

At the examination of the Third Year in Civil Engineering, one scholarship of $150.00 and one of $100.00 shall be awarded to the students ranking first and second respectively on the aggregate of the marks on all subjects of the examination.

At the examination of the Third Year in Electrical Engineering, one scholarship of $150.00 and one of $100.00 shall be awarded to the students ranking first and second respectively on the aggregate of the marks on all subjects of the examination.

Law.

(f) At the examination of the First Year of the Course in Law, one scholarship of $60.00 shall be awarded to the student ranking first on the aggregate of the marks on all subjects of the examination.

At the examination of the Second Year of the Course in Law one scholarship of $100.00 and one of $75.00 shall be awarded to the students ranking first and second respectively on the aggregate of the marks on all subjects of the examination.

Medicine.

(g) At the examination of the First Year in Medicine, two scholarships of $80.00 each shall be awarded to the students ranking first and second on the aggregate of the marks on all subjects of the examination.

At the examination of the Second Year in Medicine, two scholarships of $80.00 each shall be awarded to the students ranking first and second on the aggregate of the marks on all subjects of the examination.

At the examination of the Third Year in Medicine, two scholarships of $80.00 each shall be awarded to the students ranking first and second on the aggregate of the marks on all subjects of the examination.

At the examination of the Fourth Year in Medicine, two scholarships of $80.00 each shall be awarded to the students ranking first and second on the aggregate of the marks on all subjects of the examination.

GENERAL CONDITIONS OF ELIGIBILITY TO RECEIVE SCHOLARSHIPS.

(a) A student shall not be qualified to receive a scholarship unless:—

(1) He has obtained first-class standing on the aggregate of the subject or subjects for which the scholarship is given;

(2) And has passed at the same examination in all the subjects required for the full work of the academic year in which the scholarship is given;

(3) And has removed at the same examination, or prior to it, any condition from a previous examination that may have been registered against him.

(4) In case of the scholarships in the subjects English, French and German, History and Political Economy of the Third Year in Arts, the student receiving the same must also have gained first class standing in the course he is pursuing for the year.

(b) No student shall hold more than one scholarship. If a student succeeds in otherwise qualifying for more than one scholarship in any year, he will be allowed to receive but one, and his name will be entered upon the list as having qualified for the other, though not entitled to any of the funds; and such other scholarship shall be granted to the one ranking next to him.

(c) A student shall not be qualified to receive an Isbister prize at the examination of Part I. Matriculation unless:—

(1) He has obtained first-class standing on the aggregate of the subjects for which the prize is given;

(2) And has passed at the same examination in all subjects required for the full examination of Part I. Matriculation.

CONDITIONS GOVERNING THE PAYMENT OF SCHOLARSHIPS.

(a) On certification by the Chancellor and the Registrar or other person authorized by the Council, the several scholarships shall be paid by the Bursar of the University to the Bursar or Treasurer of the College in which the student is enrolled, or, in the case of scholarships in Law or Engineering, or in Arts, where the student is enrolled only in the University and not in any affiliated College, directly to the student himself. Payment is made in moieties on the second Wednesday of December and the second Wednesday of May of the academic year following that in which the scholarship was awarded, except in the following cases:—

The mode of payment of the scholarships awarded at the Second Year Examination in Law, at the Third Year Examinations in Arts and Engineering, and at the Fourth Year Examination in Medicine, shall be as follows: One moiety of the scholarship shall be payable in December of the Final Year and the second moiety on the third Thursday of May of the Final Year; but the latter portion shall not be paid unless the holder of the scholarship obtain first-class standing in his Final Examination.

(b) In the case of students in Arts, Medicine and Engineering, the University requires before payment of the first moiety of the scholarships a certificate from the Head or Acting Head of the College in which the student is enrolled, or from the Chairman of the University Faculty, that the student's attendance has been satisfactory up to the 8th day of December, and before the payment of the second moiety a similar certificate that the student's attendance has been satisfactory from January up to the beginning of May. And it is declared that the attendance at the college or the University to be required of a student shall be *actual attendance for the full term of such college or University session*, except in so far as non-attendance for a limited period by any particular student may be excused by the college or University authorities on the ground of ill-health or other proper reasons.

Should the conditions in this section as to the certification of the attendance of a scholarship-winner not be fulfilled during the year following that in which the scholarship was taken, the scholarship shall automatically be extended for another year.

Should the conditions in this section as to certification of a scholarship not be fulfilled during the two years immediately following the date of the taking of the scholarship, the scholarship shall lapse.

(c) The values stated for the scholarships are the maximum values which the scholarships shall not exceed. If the funds do not allow of the scholarships being of such maximum value, then they shall be proportionately of such value as the funds will allow.

SPECIAL PRIZES.

CANADIAN HISTORY PRIZES.

(a) Two prizes, one of $30.00 and one of $20.00, are awarded to the candidates ranking first and second, respectively, on the paper in Canadian History of the Part I. Matriculation examination (any faculty), in June of each year. These prizes are the gift of the Canadian Club of the City of Winnipeg.

(b) A class prize, taking the form of pictures or other works of art, commemorative of Canadian history, is also offered by the Winnipeg Canadian Club to the class taking the highest average standing in Canadian History at the aforesaid examination. The precise conditions of this award are not yet determined and will be announced later.

II. THE DEAN'S PRIZES IN MEDICINE.

Two microscopes, the gift of Dr. H. H. Chown, Dean of Manitoba Medical College, are awarded each year to the two students of the Fifth Year in Medicine who have obtained the highest standing on the aggregate marks of the five annual examinations of their course.

TRAVELLING SCHOLARSHIP

The sum of $600.00 is given annually for the maintenance of a Travelling Scholarship, to be awarded under the following conditions:—

1. The object of the Travelling Scholarship shall be to assist students who have completed their Final Year in the University to pursue the special line of studies which they have selected, at some other University or seat of learning.

2. No student shall hold a Travelling Scholarship for a longer period than two years; and no student who has once held such scholarship shall be eligible for a second time.

3. Those eligible to compete for the scholarship shall be students who have graduated not more than twelve months previously, at the regular spring examination, in one of the special courses in Arts or in the course in Medicine or Engineering.

4. One Travelling Scholarship shall be offered for competition in every alternate year, or oftener if a scholarship be vacant; and the course in which it is offered shall be decided by rotation in the following order:—The special course in Classics, the special course in Mathematics, the special course in Modern Languages, the special course in English Philosophy, the special course in Latin Philosophy, the special courses in Science, the course in Medicine, the courses in Engineering. The course in which it is proposed to award it shall be announced in the Calendar of the year previous.

5. The scholarship shall be awarded to the student obtaining the highest marks at a special examination in the subjects of the selected course, the date and place of holding which shall be announced in the Calendar of the year previous. Provided always that the scholarship shall not be awarded to any student who shall not have (a) obtained first class standing at the special examination, and (b) obtained first class standing and have passed in all subjects of his final examination. If these conditions be not satisfied the scholarship may, if the Board of Studies deem it advisable, be offered under similar conditions in the subjects of the course next in rotation.

6. The place at which the successful student shall pursue his studies shall be selected by the student, subject to the approval of the Board of Studies.

7. The scholarship shall be of the yearly value of $600.00, and the amount shall be paid each year in two moieties; provided that the second moiety in each year shall not be paid until the student shall have spent at least three months in studying at the institution selected, and shall have produced a certificate from the authorities of the institution of his having made satisfactory progress.

The special Travelling Scholarship Examination shall be held each year in June, beginning on the opening day of the Matriculation Examination. Applications for this examination shall be forwarded to the Registrar thirty days in advance.

1913.

The scholarship will be awarded in this year in the Department of Modern Languages. The examination will consist of the following papers:—

ENGLISH—

1. Shakespeare (as for the Third Year in Arts, Special Courses, 1913).
2. Wordsworth and Coleridge (as for the Fourth Year in Arts, Special Courses, 1913.)
3. Tennyson and Browning (as for the Fourth Year in Arts, Special Courses, 1913.)

GERMAN—

1. Prose, Sight Translation, Essay of 300 Words, and Oral.
2. Eighteenth Century Authors (as for Third Year in Arts, Special Courses, 1913.)
3. Nineteenth Century Authors (as for Fourth Year in Arts, Special Courses, 1913.)

FRENCH—

1. Prose, Sight Translation, Essay of 300 Words, and Oral.
2. Seventeenth Century Authors (as for Third Year in Arts, Special Courses, 1913.)
3. Nineteenth Century Authors (as for Fourth Year in Arts, Special Courses, 1913.)

THE RHODES' SCHOLARSHIP.

By the will of the late Hon. Cecil Rhodes, a scholarship of the value of £300 yearly, tenable at any college in the University of Oxford for three consecutive academical years, has been allotted to the Province of Manitoba. Nominations to the scholarship are made by a committee of five, named by the Council of the University of Manitoba at its regular October meeting. The names of the members of this committee for 1910-1911 appear on page 17.

In order to be eligible for nomination to this scholarship, candidates—

(a) Must be British subjects.

(b) Must have spent four years in Manitoba educational institutions, two at least of which must have been as registered undergraduates of the University of Manitoba.

(c) Must not be less than nineteen nor more than twenty-five years of age at the time of appointment, and unmarried.

The University of Manitoba has been admitted by the University of Oxford to the privileges of the Statute on Colonial and Indian Universities. This statute relieves its students of a certain standing from the requirements of Responsions (the first public examination exacted by the University of Oxford from each candidate for a degree), providing a sufficient knowledge of the Greek language has been shown. It also admits to Junior or Senior status, as follows:—

(a) Any member of a University so admitted, who shall have pursued a course of study prescribed by it and extending over two years, and who shall have passed all the examinations incident to the course, may be admitted to the status and privileges of a Junior Colonial or Indian Student.

(b) Any member of a University so admitted, who shall have pursued a course of study prescribed by it and extending over three full years, and who shall have taken Honours in the final examination incident to the course, may be admitted to the status and privileges of a Senior Colonial or Indian Student.

Candidates for the scholarship, therefore, who have satisfied the condition of eligibility which requires a record of at least two years of undergraduate work in the University of Manitoba, are likely at the same time to be relieved of the necessity of passing a preliminary or qualifying examination, provided they hold standing in Greek equivalent at least to that of the Second Year in Arts.

If the University of Manitoba did not enjoy this privilege under the Statute on Colonial and Indian Universities, or if the two years of undergraduate work of the prospective candidate were not sufficient to relieve him from Responsions, a qualifying examination would be held prior to the election.

This examination is not competitive, but is intended to give assurance that all candidates are fully qualified to enter on a course of study at Oxford University. It is therefore based on the requirements for Responsions. Rhodes scholars may be selected from candidates who have successfully passed this preliminary examination.

Candidates must offer the following:—

(1) Arithmetic—the whole.

(2) Either Algebra—

Addition, Subtraction, Multiplication, Division, Greatest Common Measure, Least Common Multiple, Fractions, Extraction of Square Root, Simple Equations containing one or two unknown quantities, and problems producing such equations.

Or, the Elements of Geometry—

Elementary Questions, including propositions enunciated by Euclid, and easy deductions therefrom, will be set on the subject-matter contained in the following portions of Euclid's Elements, viz.:—

Book I.—The whole, excluding propositions 7, 16, 17, 21.

Book II.—The whole, excluding proposition 8.

Book III.—The whole, excluding propositions 2, 4 to 10, 13, 23, 24, 26 to 29.

Any method of proof will be accepted which shows clearness and accuracy in geometrical reasoning. So far as possible, candidates should aim at making the proof of any proposition complete in itself. In the case of propositions 1 to 7, 9, 10 of Book II., algebraical proofs will be allowed.

(3) Greek and Latin Grammar.

(4) Translation from English into Latin prose.

(5) Greek and Latin Authors.
Candidates must offer two books, one Greek and one Latin or Unseen Translation. The following portions of the undermentioned authors will be accepted:—

Demosthenes—De Corona.

Euripides—Any two of the following plays: Hecuba, Medea, Alcestis, Bacchae.

Homer—(1) Iliad 1—5, or 2—6; or (2) Odyssey 1—5, or 2—6.

Plato—Apology and Crito.

Sophocles—Antigone and Ajax.

Xenophon—Anabasis 1—4, or 2—5.

Caesar—De Bello Gallico, 1—4.

Cicero—(1) the first two Phillippic Orations; or (2) the first three Catiline Orations, and In Verrem, Act I.; or (3) the Orations, Pro Murena and Pro Lege Manilia; or (4) the theatises, De Senectute and De Amicitia.

Horace—(1) Odes 1—4; or (2) Satires; or (3) Epistles.

Livy—Books V. and VI.

Vergil—(1) the Bucolics, with Books 1—3 of the Æneid; or (2) the Georgics; or (3) the Æneid, Books 1—5, or 2—6.

The texts used in setting the examination papers will be those of the Series of Oxford Classical Texts, so far as these have been published by the Oxford University Press.

Papers covering this range of study will be prepared by examiners appointed by the Trustees, and will be sent to each centre, where required, and at a date publicly announced, the examination wil be held under proper suprvision, and the papers returned to the examiners. A list of those who have successfully passed this test will, as soon as possible, be furnished the Committee of Selection, and from this list, and a list of other eligible candidates, the Committee will proceed to elect the scholar.

Candidates for the scholarship should, during the month of December, notify the Secretary of the Committee of Selection of their intention of becoming such candidates, forwarding at the same time a detailed statement of their record, proof of all matters necessary to establish their eligibility, and a list of references with whom the Committee of Selection may communicate respecting their fitness for appointment. The decision of the Committee of Selection is final.

The following extract from the will of the late Right Hon. Cecil John Rhodes serves to indicate some of the considerations taken into account in elections to this scholarship:

"My desire being that the students who shall be elected to the scholarships shall not be merely bookworms, I direct that in the election of a student to a scholarship regard shall be had to (1) his literary and scholastic attainments; (2) his fondness of and success in manly outdoor sports, such as cricket, football and the like; (3) his qualities of manhood, truth, courage, devotion to duty, sympathy for and protection of the weak, kindliness, unselfishness and fellowship; and (4) his exhibition during school days of moral force of character and of instincts to lead and to take an interest in his schoolmates; for those latter attributes will be likely in after life to guide him to esteem the performance of public duties as his highest aim. As mere suggestions for the guidance of those who will have the choice of students for the scholarships, I record that (1) my ideal qualified student would combine these four qualifications in the proportions of three-tenths for the first, two-tenths for the second, three-tenths for the third, and two-tenths for the fourth qualifications, so that according to my ideas, if the maximum number of marks for any scholarship were 200 they would be apportioned as follows: 60 to each of the first and third qualifications and 40 to each of the second and fourth qualifications; (2) the marks of the several qualifications would be awarded independently as follows (that is to say) the marks of the first qualification by examination, for the second and third qualification respectively by ballot by the fellow-students of the candidates, and for the fourth qualification by the head master of the candidate's school; and (3) the results of the awards (that is to say, the marks obtained by each candidate for each qualification) would be sent as soon as possible for consideration to the trustees or to some person or persons appointed to receive the same, and the person or persons so appointed would ascertain by averaging the marks in blocks of 20 marks each of all candidates the best ideal qualified students."

No student shall be qualified or disqualified for election to scholarship on account of his race or religious opinions. The election to scholarships shall be by the trustees after such (if any) consultation as they shall think fit with the minister having the control of education in such colony, province, state or territory.

The Committee of Selection is asked to furnish to the Trustees as full a statement as possible of the school and college career of each elected scholar, with the special grounds of his appointment, together with suggestions, if desired, as to the course of study for which he is best fitted.

A qualified student who has been elected as aforesaid shall within six calendar months after his election, or as soon thereafter as he can be admitted into residence, or within such extended time as the Trustees shall allow, commence residence as an undergraduate at some college in the University of Oxford. The scholarship is payable to him from the time when he commences such residence.

Any inquiries about Oxford, its colleges and the courses of study there, should be addressed to F. J. Wylie, Esq., the Oxford agent of the Rhodes Trustees.

Copies of Oxford Responsion papers for past years can be obtained from the Copp, Clark Company, Toronto. The Student's Handbook of Oxford can be ordered at the same address. It gives full information about the examinations of the University, subject to changes made since the last edition was issued. "Oxford As It Is," a small pamphlet prepared by Mr. Louis Dyer, of Harvard and Balliol Colleges, for the use of American candidates, gives all essential information in a condensed form. It can also be ordered from the Copp, Clark Company, Toronto. "Oxford and Its Colleges," written by Mr. J. Wells, of Wadham College, and "Oxford and Oxford Life," edited by the same gentleman, may be recommended to those who wish to gain full information about the University and its Colleges.

MEDALS.

(a) The Governor-General's Medals.

1. The Governor-General's *Silver and Bronze Medals*, the gift of His Excellency, the Governor-General, are awarded to the students ranking first and second respectively in first-class standing at the final examination of the different courses in Arts in rotation, and take the place for the year of the University Silver and Bronze Medals in the course in which they are awarded.

In 1912, the Governor-General's Medals will be awarded in the courses in Natural and Physical Science.

(b) University Medals.

1. A *Silver Medal* is awarded annually to the student obtaining the highest first-class standing in each course in Arts* at the final examination (including each of the four divisions of the course in Natural and Physical Science), and to the student obtaining the highest first-class standing at the final examination in the course in Law, and to the student obtaining the highest first-class standing at the final examination in the course in Medicine.

2. A *Bronze Medal* is awarded annually to the student standing second in order of merit in each course in Arts* at the final examination (except the four divisions of the course in Natural and Physical Science), provided his standing also be first-class, and to the student standing second in order of merit in the final examination of the course in Law, provided his standing be first-class, and to the student standing second in order of merit in the final examination of the course in Medicine, providing his standing be first-class.

(c) Special Medals.

1. A *Gold Medal*, presented by Dr. J. H. O'Donnell, is awarded annually to the student obtaining the highest first-class

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* In the award of medals in the General Course, all five subjects shall be taken into account, according to the following method: The percentage of the highest candidate in each subject shall be raised to 100, and that of each of the other candidates in proportion, and the medals awarded on the basis of these raised percentages.

standing in Obstetrics and Diseases of Children in the final examination in Medicine, providing his standing in other respects be satisfactory.

2. A *Gold Medal*, presented by Dr. J. N. Hutchison, is awarded annually to the student obtaining the highest first-class standing on the aggregate marks of the full course in Medicine.

3. A *Gold Medal*, presented by Mr. J. L. Doupe, is awarded annually to the student obtaining the highest first-class standing on the Third and Fourth Year Examinations of the course in Civil Engineering.

DEGREES IN ABSENTIA.

No degree will be conferred *in absentia* except where good reasons for absence have been submitted to, and approved by the Board of Studies, or the Council, and an additional fee of ten dollars will be exacted in each case where permission is granted.

GRADING OF DEGREES.

All degree diplomas granted by the University are graded as follows: *rite*, indicating standing between the pass mark and 66% inclusive; *cum laude*, indicating standing between 67% and 79% inclusive; *magna cum laude*, indicating standing of 80% and above.

UNIVERSITY DRESS.

No undergraduate student shall present himself at any University Examination, or at any meeting of the University, unless he be clothed in the academic dress peculiar to his college.

The materials and colors prescribed by the Council for the hoods to be worn by graduates of the University in the various Faculties, are as follows:

B.A.—Black stuff, edged with white rabbit-skin, with a braid of green silk.

M.A.—Black corded silk, lined with scarlet corded silk.

M.D.—Black cashmere, lined with purple corded silk.

M.D., C.M.—Black cashmere, lined with purple corded silk and edged with violet silk.

LL.B.—Black silk stuff, lined with white silk, edged with narrow white rabbit skin, and narrow green silk braid along the border.

B.S.A.—Black, lined with green, and edged with white rabbit-skin.

Phm.B.—Black, lined with light blue and edged with white rabbit-skin.

B.C.E.—Black, lined with yellow and edged with white rabbit-skin.

M.C.E.—Black, lined with yellow.

B.E.E.—Black, lined with yellow and edged with white rabbit-skin.

M.E.E.—Black, lined with yellow.

LL.D.—Scarlet cloth lined with white moiré silk.

FEES.

The following fees are required and must be paid to the Registrar of the University in advance. Tuition fees are payable at the time of registration, examination fees at the time of application, degree fees at the time of application for final examination. The fees for admission *ad eundem statum* or *ad eundem gradum* are payable at the time application therefor is made; the fees for the M.A., M.C.E. and M.E.E. degrees at the time the candidate's thesis is submitted.

Matriculation Examinations.

For Registration (payable the first time a candidate takes an examination of the University of Manitoba)	$ 2 00
For Matriculation (Part I.)	3 00

For Matriculation (Part II.)	4 00
For Matriculation (Parts I. and II.)	6 00
For Matriculation by subjects, each subject	2 00
For Matriculation, or Registration of Matriculation in Pharmacy	5 00
For each Supplemental Examination, any number of subjects	8 00

Examinations above Matriculation.

For Registration (payable the first time a candidate takes an examination of the University of Manitoba)	$ 2 00
For each Regular Examination	$ 8 00
For a Regular Examination by subjects—each subject	2 00
For each Supplemental Examination—any number of subjects	8 00

Tuition.

For Students of Courses in Natural and Physical Science	$45 00
For Students of any other course in which all the instruction is given by the University Faculty	36 00
For Students in other courses taking University lectures, each subject	8 00
For Students in other courses taking University lectures, each subject with practical work	10 00
For Extension Course in English Literature, Political Economy, or Nature Study	5 00

For Engineering Students—

First Year	$55 00
Second Year	65 00
Third Year	80 00
Fourth Year	80 00

(The tuition fee of each special student is determined by the Registrar, after consultation with the Professor in whose department the student receives instruction.)

Degrees.

For the Degree of B.A.	$10 00
For the Degree of M. A. (Examination of Thesis, $10.00; Degree, $10.00)	20 00
For the Degree of LL.B.	10 00
For the Degree of Phm. B.	10 00
For the Degree of M.D.	10 00
For the Degree of C.M.	15 00
For Examination for License to Practice Medicine	15 00
For the Degree of B.C.E.	10 00
For the Degree of B.E.E.	10 00
For the Degree of M.C.E.	20 00
For the Degree of M.E.E.	20 00
For the Degree of B.S.A.	10 00
For the conferring of any Degree *in absentia* (for which the consent of the Board of Studies or the University Council must be secured), an additional fee of	10 00
For admission *ad eundem statum*	5 00
For admission *ad eundem gradum*	10 00

Appeals.

For the re-reading of one or two papers	$ 4 00
Each additional paper	2 00

Special.

For a Certificate of Standing	$ 2 00
For a Statement	1 00
For a Complete Bound Set of Examination Papers	50
Any student, whether attending Lectures in the University Building or not, who neglects to register, in each year of his course, with the Registrar of the University, within two weeks after entering College, may be liable to a fine of	2 00

Caution Money.

Students in Engineering and in the special courses in Mathematics and Natural and Physical Science, and all others taking practical or laboratory classes in the University, are required to deposit with the Registrar at the beginning of each session the sum of $5.00. Against this will be assessed the value of all apparatus broken or materials wasted in any way other than in the legitimate course of class work, and the balance will be refunded at the close of the term. In like manner assessments for damage done will be made by University professors and lecturers against the caution money deposits made by Medical students at the Manitoba Medical College.

Appendices

APPENDIX I.

UNIVERSITY SOCIETIES

THE STUDENTS' REPRESENTATIVE COUNCIL.

Instituted January, 1907.

The Students' Representative Council is composed of five representatives from each of the affiliated Colleges and the University.

These are elected in October of each year. The purpose of the Council is to act as a medium of communication between the students of the University and the University authorities, or between the students and the public at large, to deal with matters affecting the students of the University in general, to promote university spirit among the students, and to act as a court of appeal in matters of dispute among student organisations where the interests of the student body at large are involved.

Each college represented contributes $10.00 yearly to the funds of the Council.

THE STUDENTS' UNION.

Instituted November, 1907.

The objects of the Union are to bring together undergraduates, graduates and members of the staff of the University, to deal with all matters affecting University students, to promote university spirit, and, by special committees, to take charge of athletics and social functions. All undergraduates who take all or the majority of their lectures at the University, and any other undergraduates who may wish to identify themselves with the organization as University students, are eligible for membership. Membership is also open to all graduates of the University and to members of the teaching staff. The annual membership fee of 25c is paid to the Registrar at the time of enrollment.

The officers for 1910-11 were as follows:—*Honorary President*, Professor M. A. Parker; *President*, H. S. Rimmington; *Vice-President*, W. H. Jones; *Treasurer*, A. L. Cavanagh; *Secretary*, C. N. Mitchell; *Committee*: Dr. R. K. McClung, A. K. Grimmer, W. S. Wallace; *Athletic Committee*: Professor

N. B. MacLean, R. I. Lothian, C. N. Mitchell, W. R. Davis, L. Easton, J. D. Ruttan; *Social Committee*: Professor E. E. Brydone-Jack, C. N. Mitchell, L. Easton, W. W. Dynes, W. H. Jones, H. L. Johnston; *Football Captain*, R. H. O'Reilly; *Track Captain*, H. S. Rimmington; *Basket Ball Captain*, C. N. Mitchell.

The officers for 1911-12 are as follows: *President*, J. H. Irvine; *Vice-President*, F. G. Earle; *Secretary*, C. B. Sharpe; *Treasurer*, H. R. Urie.

THE SCIENTIFIC SOCIETY.

Instituted February, 1906.

The Scientific Society has for its aim the stimulation of interest in scientific subjects, especially among the students. This is attained chiefly by lectures and discussions. All students and members of the staff are eligible for membership. The annual membership fee is 50c. The Society meets on alternate Thursdays at 8 o'clock p.m. throughout the session.

The officers for 1910-1911 were: *Honorary President*, Dr. R. K. McClung; *President*, W. L. Mann, B.A.; *Vice-Presidents*, B. Olson, B.A., G. L. Shanks; *Secretary*, T. L. Brownlee; *Treasurer*, T. A. Neelin, B.A.; *Committee*: Walter Lindal, S. A. Bjarnason, J. G. Johannsson.

The officers for 1911-1912 are: *Honorary President*, Dr. R. C. Wallace; *President*, Thomas L. Brownlee; *Vice-Presidents*, G. L. Shanks, W. H. Richardson; *Secretary*, Howard W. Winkler; *Treasurer*, T. A. Neelin, B.A.; *Committee*, C. A. Haney, Morley S. Lougheed, Gerald O. Grain.

THE ENGINEERING SOCIETY.

Instituted November, 1910.

The objects of the Engineering Society have been from its inauguration the promotion of increased interest in Engineering Science among the undergraduates of the University, and the formation of a bond of union among the graduates, the undergraduates and practising engineers and surveyors residing in the Province of Manitoba. To these have recently been added the control of athletics and social functions for engineering students. Two meetings are held in each month from November to March, inclusive. The first meeting is devoted to a lecture or paper given by some prominent engineer, while the second is conducted entirely by the students. The annual membership fee of $5.00 is paid to the Registrar at the time of enrollment.

The following are the officers for 1911-1912: *President*, Professor E. E. Brydone-Jack; *First Vice-President*, A. J. Taunton; *Second Vice-President*, W. H. Jones; *Secretary*, W. S. Wallace; *Treasurer*, G. L. Shanks; *Librarian*, H. I. Morris; *Faculty Representative*, Professor E. P. Fetherstonhaugh; *Second Year Representative*, D. M. Mawhinney; *Third Year Representative*, J. D. Ruttan; *Fourth Year Representative*, R. H. O'Reilly.

A supply department in connection with the Society furnishes students with drawing materials at reduced cost.

During the session of 1910-1911 the membership numbered about forty.

The following were the officers: *President*, R. I. Lothian; *Vice-President*, A. J. Taunton; *Secretary*, W. H. Jones; *Treasurer*, A. H. O'Reilly; *Assistant Treasurer*, L. Easton; *Librarian*, W. S. Wallace.

THE GERMAN SOCIETY.

Instituted October, 1910.

The object of the German Society is the promotion of interest in German literature, art and music. Its meetings are held fortnightly in the University, on Wednesday evenings at 8.30 o'clock. They take the form of lectures, papers, debates and conversation in the German language. Musical evenings are held at intervals during the session. The annual membership fee is $3.00. Membership is open to students and members of the staff of instruction of the University and affiliated Colleges, and others who can converse in the German language.

The officers of the German Society during the session 1910-1911 were: *Honorary President*, Mr. William Hespeler; *Hon-*

orary *Vice-President,* Mr. Hugo Carstens; *President,* Prof. A. H. R. Buller; *Vice-President,* Mr. A. T. Cameron; *Secretaries,* Dr. Armes and Dr. Wallace; *Treasurer,* Miss A. Falconer; *Librarian,* Mrs. W. H. Thompson; *Committee,* Mrs. Weiss, Miss A. L. Brunstermann, Dr. J. E. Lehmann, Mr. W. J. Spence; *Musical Committee,* Miss MacDowell (convener), Mrs. Lehmann, Mrs. Weiss, Miss Falconer, Miss Young, Dr. Armes, Dr. Wallace.

The officers for 1911-1912 are: *Honorary President,* Mr. William Hespeler; *Honorary Vice-President,* Professor A. H. R. Buller; *President,* Dr. J. E. Lehmann; *Vice-President,* Dr. R. C. Wallace; *Honorary Secretaries,* Miss A. Falconer, Dr. H. P. Armes; *Honorary Treasurer,* Miss A. L. Brunstermann; *Committee,* Mrs. Bach, Mrs. Povah, Professor E. J. Evatt, Mr. A. T. Cameron; *Musical Committee,* Mrs. Lehmann, Miss Young, Mrs. Weiss, Miss MacDowell.

OTHER SOCIETIES MEETING IN THE UNIVERSITY

THE SCIENTIFIC CLUB OF WINNIPEG.

Founded 1905.

The purpose of the Scientific Club is to discuss new and current scientific questions, and thereby to stimulate original research on the part of the members. Members are expected to contribute to the proceedings. The original membership was six. The present membership is limited to forty and there were during the winter of 1910-1911 thirty-seven on the roll. All those who have contributed to or are interested in scientific research may apply for membership. The names of candidates for membership, after approval by the committee, are submitted to the members of the club for election. The club meets in the University on alternate Tuesdays throughout the winter at 8.15 p.m. The annual membership fee is $3.00.

The officers of the club for 1910-1911 were: *Honorary Treasurer,* Professor Parker; *Honorary Secretaries,* Professor

Vincent, Mr. A. T. Cameron; *Committee*, Professor Allen, Dr. Leeming, Dr. Prowse, Dr. Torrance, Dr. Webster, Mr. R. P. Wilson.

The officers of the club for 1911-1912 are: *Honorary Treasurer*, Professor Parker; *Honorary Secretaries*, Professor Vincent, Mr. A. T. Cameron; *Committee*, Pofessor Allen, Professor Bletcher, Professor Evatt, Dr. Leeming, Dr. Torrance, Mr. R. P. Wilson.

THE ROYAL ASTRONOMICAL SOCIETY OF CANADA: WINNIPEG CENTRE.

In September, 1909, the Astronomical Association of Western Canada was formed at the University. The aim was to enable all those interested in Astronomy to obtain an elementary knowledge of the subject, and to give those with a preliminary acquaintance an opportunity of pursuing some more advanced work.

In December, 1910, the Astronomical Association was incorporated into the Royal Astronomical Society of Canada, and Winnipeg was made a local centre of that organization. The Society holds two meetings each month from October to May, inclusive, in the University Building.

The officers for 1911 are: *President*, Professor MacLean; *Vice-President*, Mr. Bastin; *Secretary*, C. V. Stout, B.C.E.; *Treasurer*, Mr. Powell; *Council*, Mrs. L. B. Ireland, Mr. Howard, Mr. Collins, Father Blain, S. J., Mrs. Kemp.

CHARTERED ACCOUNTANT STUDENTS' ASSOCIATION.

Organized 1906.

This Association is an organization of students of Accountancy in all its branches, and was formed in order to assist in the preparation of its members for the examination of the Manitoba Association of Chartered Accountants. A series of lectures is provided by the Association, covering the subjects of Book-keeping, Higher Accountancy and Commercial Law. These are given in the University on one evening per week from November to April, inclusive. The present membership of the Association is 30. The annual membership fee is $5.00.

The officers for 1910-1911 were: *President*, B. F. Griggs; *Vice-President*, J. D. Reid; *Secretary-Treasurer*, H. Slasor; *Librarian*, J. R. Woodley.

APPENDIX II.

REGULATIONS OF THE COLLEGE OF PHYSICIANS AND SURGEONS OF MANITOBA

REGULATIONS REGARDING LICENSE TO PRACTICE MEDICINE IN MANITOBA.

The College of Physicians and Surgeons, which is composed of all the medical practitioners whose names are duly entered on the Manitoba Medical Register, is neither a teaching nor an examining body, but is the sole licensing body in medicine in the Province. The University of Manitoba is the sole examining body.

If the applicant for license be a graduate in medicine of the University of Manitoba a license to practice in the Province is granted wthout further examination by paying the license fee of $125.

If the applicant for license be a graduate in medicine of any other Canadian University, he must send to the Registrar of the College of Physicians and Surgeons, prior to the 1st of March, his medical degree (as a credential), and upon this being found satisfactory he shall be reported to the University as eligible to write at the regular examination, which is held once a year, beginning on the third Monday in April.

In the case of a graduate from any University in the United States or other foreign country, he shall, in addition to sending his degree (or diploma), be required to send complete detailed and authoritative information as follows:

First.—As to his matriculation; giving the name and address of the institution in which he was examined, the subjects, and the extent of each required.

Second.—As to medical course; the number and length of sessions, subjects taught, number of courses in each, and number of lectures in each course, amount of clinical instruction in the different courses, etc., etc.

All candidates writing for license must show that the course of studies of such college or other incorporated body, at the time such member was admitted thereto, was at least equivalent to the requirements for a similar course by the University of Manitoba at the time such member shall seek to be registered as aforesaid.

On receipt of this information the College of Physicians and Surgeons will decide as to the eligibility or otherwise of the applicant to write for license.

Each applicant, at the same time that he sends his credentials to the Registrar of the College of Physicians and Surgeons, should send $15, examination fee, in a separate communication addressed to the Registrar of the University, which will be returned to him in case he is not permitted to write.

A candidate failing in three or more subjects must write on the whole examination again, and can only do so at a subsequent regular spring examination. If he fail in two subjects, or less, he will be required to write on these only, and may do so at the time of the Supplemental Examinations, which begin on third Thursday in September, or at any subsequent regular examination.

The subjects of examination for license are: Medicine, Surgery, Obstetrics, Diseases of Children, Gynæcology, Therapeutics, Clinical Medicine, Clinical Surgery, Clinical Ophthalmology and Otology. 50% is required in each to pass.

The fee for license, $125.00, is payable to the Registrar of the College of Physicians and Surgeons immediately after the receipt by him from the University of a satisfactory report of the candidate's examination.

No interim permit to practice is granted.

Licentiates in Great Britain, in good standing, may register in Manitoba on presenting the British certificate of registration and paying the registration fee, $125.00.

J. S. GRAY, M.D., Registrar,

College of Physicians and Surgeons of Manitoba,

358 Hargrave Street, Winnipeg.

APPENDIX III.

THE UNIVERSITY LIBRARY

Mrs. W. H. Thompson, Librarian.

The Library occupies what was, until recently, the Council Chamber of the University, and contains about eight thousand books and numerous pamphlets. The nucleus of this collection was that portion of the Isbister library which escaped destruction by fire in 19...., but the greater part of it has been acquired during the past three years by purchase or by gift.

Among noteworthy donors are Sir Lauder Brunton, who gave 600 volumes from his private library; the Royal Society of Medicine; Professor Crawford; the Royal Society of London, who gave a number of volumes which almost complete a set of the Proceedings of the Royal Society; the British Association for the Advancement of Science, who have presented 721 books and 150 pamphlets to commemorate their visit to Winnipeg in 1909.

The Library subscribes to one hundred and forty-six (146) periodicals, and possesses complete sets of "Nature," the "Challenger Reports," and other valuable publications. At present the majority of the works are on scientific subjects.

The Library regulations are:—

(1) The Library is open daily during the Session from 9.30 a.m. to 12.30 p.m., and from 2 to 5 p.m., except on Saturdays and holidays.

(2) The Library being set apart expressly for study, all conversation is strictly prohibited.

(3) Students are permitted to take books from the shelves, but they are to be returned to the Librarian and not to be replaced on the shelves by the readers.

(4) The Library may be used by members of the University Council, the teaching staff of the University, the teaching staff of the affiliated colleges, students registered at the University, and by other persons receiving special permission from the Librarian.

(5) Books of reference, dictionaries, encyclopaedias, may not be taken from the Library.

(6) In the event of a book being damaged or lost, the person damaging or losing it will be required to supply another copy in its place, to the satisfaction of the Library committee.

(7) Books borrowed from the Library must be returned in 14 days, subject to a renewal for a further period of 14 days, unless required by another reader. Text-books and books in constant use in classes are allowed out for short periods only, at the discretion of the Librarian.

(8) All books, pamphlets, etc., must be returned to the Librarian on or before the last day of the Session.

(9) The Librarian is authorized to exclude temporarily any person infringing the regulations of the Library.

APPENDIX IV.

DEGREES GRANTED, 1910—1911

October 6th, 1910.

B.A.

Gibson, Alexander Raeburn
Kennedy, Harvey Everest
Monette, Joseph Antoine

M.D.

Lee, John Howard

B.C.E.

Stout, Clifford Vier

December 8th, 1910.

M.A. Ad Eundem Gradum.

Kraus, Corinne A., M.A.
University of Wisconsin.

February 9th, 1911.

B.C.E.

Taylor, William Caven

LL.B. Ad Eundem Gradum.

Longchamps, Boguslaw Chas.
University of Lemberg.

B.A. Ad Eundem Gradum.

Jefferson, Robert, B.A.
Royal University of Ireland.

April 6th, 1911.

M.A. Ad Eundem Gradum.

Schwarze, Karl, Ph.D.,
Leipzig.

LL.B. Ad Eundem Gradum.

Shaw, Joseph T., LL.B.,
University of Michigan.
Olsen, Karl Ingvar,
Royal Frederick University
Norway.

May 12th, 1911.

LL.D. (Honoris Causa).

Falconer, Robert Alexander, M.A., LL.D., Litt.D., President of the University of Toronto.

McMillan, Daniel Hunter, K.C.M.G., Lieutenant-Governor of Manitoba.

B.A.

Anderson, James Thos. Milton
Argue, Robert Fletcher
Beaupré, Jean Baptiste
Bertrand, Jacques
Brandon, Isabel Albina
Bury, George Aylen Ernest
Cameron, Charles Frederick
Campbell, John Fletcher
Chambers, Samuel David
Christopherson, John
Denby, Ella
Dixson, Percy John
Doidge, Walter Alexander
Donnelly, Henry Bingham
Elliott, Albert Leslie
Evans, Albert Ethelbert Aylward
Fahrni, Roy Christopher
Fox, Vera Marguerita
Gardiner, James Garfield
Howey, John Victor
Johansson, Johann Gestur

Jonsson, Baldur
Kerr, Stanley Harold
Lamont, Joseph Laurie
Lawson, Clarkson Brunskill
Leslie, Eva Mary
Lindal, Walter
Lukacs, Joseph
Magowan, Robert
Major, Fernand Bertrand
Matheson, Edgar Hugh Ernest
Matheson, Norah Evelyn
McCool, Charles Wesley
McEwing, Alexander
McGill, Leonard Sydney
McIntyre, Gladys Isabel
McIntyre, Neil Albert
McKnight, Almyra
McLenaghan, Myrtle Victoria
McManus, Joseph Louis
McQueen, Robert
Miller, Charles Samuel
Morgan, William Henry
Morrison, Wesley
Mulligan, William Orr
Neville, Allen Erwin
Noble, William Maurice
Paul, Morley Perry
Patterson, Douglas Richard
Rutherford, Gerald Stuart
Shearer, William Charles
Sibley, John Cynddylan
Siddall, Eldon Rooklidge
Sissons, Melrose
Strang, John Argyle
Thompson, Jean Hathaway
Wilkins, James

LL.B.

Cumming, William Purdon
George, John Milton
Guild, William Forbes, B.A.
Honeyman, Egbert Douglas, B.A.
Hoskins, Ronald
Kilbourne, Robert Bruce
McMillan, Norman A., B.A.
Masterman, Lawrence Arthur
Sirett, Ebenezer Tom, B.A.
Whitman, Herman Alton, B.A.

M.D.

Armstrong, George Perry
Atkinson, Wilfred Lorne
Beech, Stuart Eccles, B.A.
Bryant, Frank Millwood
Clare, Charles Morley
Elliott, William James
Fahrni, Gordon Samuel
Fraser, John Brereton
George, James Polson
Little, Edwin Lionel
McGregor, Bruce
McKenty, Donald Edmund
Martin, John Roy
Miller, Thomas
Mooney, George William
Richardson, James Graeme
Rose, Stuart Mason
Scribner, John Franklin
Stefansson, Jon

C.M.

Elliott, William James
George, James Polson
Martin, John Roy
Mooney, George William

B.C.E.

Dynes, William Warren
Easton, Roy Newby
Landon, Charles Sydney Clapp
O'Reilly, J. Arthur Hamilton
Rimmington, Harry S.

B.E.E.

Cavanagh, Albert Lee
Lothian, Robert Ingles

B.S.A.

Crawford, Frederick Walter
Harrison, Thomas James
Jones, Edgar Ward
McMillan, Archibald John
Noble, John Carmichael
Partridge, Charles Grover
Smith, John Cochrane
Tinline, Milton John
Thomson, William Walter
Thompson, Harry Nelson

M.A.

Fee, Wilfred John, B.A., University of Manitoba, 1901. Thesis: "Nature Description in the Works of Drummond of Hawthornden."

King, Robert Alexander, B.A., University of Manitoba, 1895. Thesis: "Land Revenue in British India and a Native State; a Comparison and a Contrast."

Leo Hjortur J., University of Manitoba, 1907. Thesis: "The Authorship of the Fourth Gospel."

B.A. Ad Eundem Gradum.

Paillé, George J. A., Ph.B., University of Ottawa.

June 8th, 1911.

B.A.

McFarlane, Margaret Ethel

M.D.

Peake, William Henry Thorpe

B.A. Ad Eundem Gradum.

McLean, Margaret Helena, B.S. University of Nebraska.

APPENDIX V.

STUDENTS IN ATTENDANCE, 1910—1911

ARTS

(Unless otherwise indicated the Post Offices are in Manitoba.)

First Year.

Name.	College.	Address.
Allaire, Orphidas	(B)	St. Boniface
Allan, David Jeffrey	(M)	Killarney
Alsip, Marguerite Isobel	(M)	Winnipeg
Anderson, Cyril K.	(J)	Selkirk
Anderson, John W.	(J)	Selkirk
Andrews, James Bernard	(W)	Winnipeg
Arsenych, Jaroslaw W.	(M)	Winnipeg
Atton, William P.	(W)	Paynton, Sask.
Banks, William	(W)	Caron, Sask.
Baragar, Fred. D.	(W)	Elm Creek
Bertrand, Aime	(B)	St. Boniface
Bellavance, Joseph	(B)	Norwood
Brandow, Ethel May	(M)	Selkirk
Brazier, Wm. Mortimer	(J)	Winnipeg
Bright, Clarence	(W)	Winnipeg
Bryan, Owen Evans	(M)	Winnipeg
Buron, Albert	(B)	St. Boniface
Caldwell, Grace I.	(NC)	Dauphin
Carroll, James	(NC)	Portage la Prairie
Carruthers, A. I. A.	(W)	Whitby, Ont.
Champagne, Celestin	(B)	St. Norbert
Chapman, Harold J.	(M)	Beresford
Collins, F. Kay	(M)	Miami
Conner, Mabel	(NC)	Portage la Prairie
Constable, Thomas	(W)	Sandridge
Cox, Hubert C.	(J)	England
Crook, Wm. H.	(W)	Winnipeg
Dennison, Henry Holling	(W)	Newdale
Dick, Selwyn E.	(M)	Winnipeg
Eaton, Anna	(W)	Winnipeg
Eaton, Louise	(W)	Winnipeg
Einarsson, John	(W)	Logberg, Sask.
Etsell, Edward	(M)	Virden
Ferguson, Clara M.	(W)	Yorkton, Sask.
Finlayson, Roderick K.	(M)	Stony Mountain
Fleming, Thomas P.	(M)	Winnipeg

First Year—(Continued)

Name.	College.	Address.
Flemming, Jack T.	(NC)	Dauphin
Fraley, Floyd D.	(W)	Winnipeg
Gable, Nellie M.	(W)	Winnipeg
Gable, Wellington S.	(W)	Winnipeg
Gardiner, J. A. S.	(W)	Lucknow, Ont.
Gerrand, David	(M)	Virden
Goodmundson, Mundi	(W)	Winnipeg
Gray, Thomas	(W)	Indian Head, Sask.
Hacault Gaston	(B)	Holland
Haig, Clive H.	(M)	Alexander
Haney, Gladys	(W)	Winnipeg
Hanneson, Anna S.	(W)	Churchbridge, Sask.
Hanson, George	(W)	Dugald
Harvey, Walter B.	(W)	Dugald
Helgason, Sigrun I.	(W)	Nes
Henry, W. Brock	(W)	Winnipeg
Herbert, Evelyn M.	(W)	Winnipeg
Hewitt, John R.	(W)	Kisbey, Sask.
Hodges, John H.	(W)	England
Hodgkins, Alfred	(W)	
Hogg, Arthur W.	(M)	Winnipeg
Hoover, Sidney E.	(W)	Winnipeg
Horrobin, George	(NC)	Winnipeg
Irwin, Joseph A.	(M)	Ireland
Johnson, Thomas	(W)	Baldur
Johnston, Charles E.	(NC)	Dauphin
Jones, Thomas H.	(M)	Louise Bridge
Jull, Walter K.	(J)	Lockport
Keeton, A. W.	(W)	Winnipeg
Kelly, Magnus	(W)	Selkirk
Kennedy, Wilma L.	(M)	Neepawa
Latto, Thomas T.	(M)	Winnipeg
Law, Alexandra W.	(B)	Winnipeg
Lawlor, Thomas W.	(M)	Killarney
Lee, George Harold	(W)	Souris
Leslie, W. R.	(W)	Winnipeg
Lobban, James A.	(J)	Keyes
Lowery, Edward W.	(W)	Winnipeg
Lynch, Catherine	(M)	Westbourne
Macdonald, Charlotte L.	(M)	Winnipeg
MacDonald, Mary I.	(M)	Winnipeg
MacLachlan, Lizzie M.	(NC)	Nettley Lake
MacQueen, Donald Gordon	(M)	Gladstone
Magnusson, Aldis	(W)	Lundar
McCarthy, Myrtle J.	(NC)	Portage la Prairie
McKay, Elizabeth M.	(W)	Swan River
McKay, Percival J.	(W)	Swan River
McKelvey, George	(W)	Holmfield
McLenaghen, James O.	(NC)	Portage la Prairie
McNeill, Glennie	(M)	Boissevain
McPhail, Hugh	(M)	Ladstock, Sask.
Meckling, Oscar	(M)	Plum Coulee
Miller, George M.	(M)	Winnipeg
Munroe, Marjorie Hopper	(M)	Kildonan

First Year—(Continued)

Name.	College.	Address.
Munroe, Robert Nelson	(J)	Winnipeg
Nason, Minnie M.	(W)	Winnipeg
Newman, Harold	(W)	Winnipeg
Nichols, Anna R.	(W)	Winnipeg
Nordal, John	(W)	Selkirk
Oliver, Moses	(W)	Winnipeg
Parlee, Florence T.	(W)	Winnipeg
Pearson, Lillian J.	(J)	Winnipeg
Perkins, Forbes W.	(M)	Winnipeg
Polson, Alexander	(M)	Winnipeg
Polson, Hugh	(M)	Winnipeg
Rattcliffe, Percival G.	(J)	Elm Creek
Riddle, Della M.	(W)	Winnipeg
Robinson, Royston T.	(J)	Winnipeg
Rodgers, Mary Alice	(W)	Elkhorn
Ross, Simon L.	(W)	Antler, Sask.
Roy, Joseph Leon	(B)	St. Boniface
Rundle, Nellie I.	(NC)	Portage la Prairie
Rutherford, Wm. Gordon	(M)	Wheatland
Schultz, Stuart D.	(W)	Baldur
Scott, Agnes	(NC)	Portage la Prairie
Senez, J. A. Lucien	(B)	St. Boniface
Shortt, John Nelson	(W)	Vancouver, B.C.
Simpson, Harold E.	(M)	Selkirk
Skinner, Alexander R.	(M)	Winnipeg
Skinner, Morden Earl	(J)	Selkirk
Snider, Florence M.	(W)	Winnipeg
Speirs, Mabel M.	(W)	Winnipeg
Stefansson, Stefan B.	(W)	Mary Hill
Stewart, Charles A.	(W)	Emerson
Styles, Alfred G.	(J)	Winnipeg
Tees, Percy C.	(W)	Winnipeg
Thexton, Annie C.	(W)	Lower Fort Garry
Thomas, Charles Tracy	(M)	Deloraine
Thompson, Steinn O.	(W)	Selkirk
Thompson, John Wilfrid	(W)	Grenfell, Sask.
Thorarinsson, John	(W)	Logberg, Sask.
Thorn, George W.	(NC)	Portage la Prairie
Treleaven, J. C.	(M)	Killarney
Veitch, Clara Hazel	(W)	Winnipeg
Waind, Edna B.	(W)	Arcola
Walker, Alice S.	(M)	Winnipeg
Wark, Myrtle M.	(W)	Winnipeg
Warkentin, Bernhard	(W)	Winkler
Webster, Pearl H.	(NC)	Portage la Prairie
Webster, Peter	(W)	Winnipeg
Weir, Frederick G.	(W)	Winnipeg
Whittaker, Joseph T.	(W)	Winnipeg
Whyte, Cecil B.	(M)	Moosomin, Sask.
Wilding, George Harold	(W)	Winnipeg
Yule, Robert Foreman	(W)	Killarney

Second Year.

Name.	College.	Address.
Anderson, Olafur T.	(W)	Selkirk
Arnason, Jon	(W)	Winnipeg
Ball, Frederick B.	(W)	Winnipeg
Beaupre, Jos. M.	(B)	St. Boniface
Bell, Albert E.	(W)	Baldur
Bergmann, Magnea	(W)	Winnipeg
Bjornson, S. E.	(W)	Winnipeg
Black, George P.	(W)	Winnipeg
Bleau, Jos. Aime M.	(B)	St. Boniface
Bonneau, Solomon M.	(B)	St. Vital
Bowman, Harry I.	(M)	Miami
Bridgman, Bidwell W.	(W)	Portage la Prairie
Buchanan, Margaret Ruth	(J)	Winnipeg
Bushe, Wm. Feltrin	(J)	Winnipeg
Cameron, Catherine J.	(M)	Shoal Lake
Campbell, Neil Stanley	(J)	Winnipeg
Chapman, Arthur A.	(W)	Forget
Cleave, Wm. T.	(W)	Winnipeg
Clendenan, Mary Marguerite	(M)	Winnipeg
Crookshanks, Olive Marion	(W)	Grand View
Crummy, Richard	(W)	Winnipeg
Crummy, Wm. T.	(W)	Winnipeg
Cunningham, Olive I.	(W)	Winnipeg
Douglas, Norman P.	(W)	Makinak
Ducker, Stella May	(W)	Winnipeg
Dunfield, Eber A.	(W)	Winnipeg
English, Harry Oswald	(W)	Harding
Erickson, John	(W)	Winnipeg
Florence, George	(M)	Roden
Frith, Lawrence E. C.	(J)	Winnipeg
Garrow, Wm. M.	(M)	Winnipeg
Garton, Maris H.	(J)	Winnipeg
Gordon, John R.	(W)	Medicine Hat, Alta.
Hansford, Blossom	(M)	Winnipeg
Harvey, Fern M.	(W)	Winnipeg
Heaton, Leonard D.	(W)	North Battleford
Hurd, W. Burton	(M)	Winnipeg
Irvine, Charles V.	(W)	Winnipeg
Irvine, Wesley W.	(W)	Alameda
Jenkins, Llewellyn A.	(M)	Winnipeg
Johannson, Arnliefur L.	(W)	Winnipeg
Johnson, Thomas W.	(W)	Winnipeg
Johnston, Lillian S.	(W)	Winnipeg
Killam, George T.	(W)	Mt. Middleton, N.B.
Kristjansson, Matthildur	(W)	Tantallon, Sask.
Leach, Harold Melville	(W)	Winnipeg
Leighton, Edmund H.	(J)	Winnipeg
Lethem, Walter Gibb	(M)	Winnipeg
Lipsett, Florence Q.	(W)	Winnipeg
Loft, Arthur	(W)	Winnipeg
Logan, Lois A.	(M)	Lauder
Long, William	(B)	St. Boniface
McEown, Lawrence L.	(W)	Souris
McKay, Joseph F.	(J)	Prince Albert, Alta.

Second Year—(Continued)

Name.	College.	Address.
McTeigue, Bernard	(B)	Port Arthur, Ont.
Margerie, Antonio de	(B)	St. Anne des Chenes
Maxwell, Jessie W.	(W)	Scott, Sask.
Meagher, Charles A.	(B)	St. Boniface
Milner, Wm. H.	(M)	Winnipeg
Mitchell, Celia Ella	(M)	Winnipeg
Mitchell, Elinor M.	(M)	Winnipeg
Moffatt, Edward Knowles	(J)	Winnipeg
Mountford, Wilfrid	(W)	Winnipeg
Orr, Nina J.	(M)	Winnipeg
Paquin, Pierre	(B)	St. Boniface
Parker, George W.	(M)	Winnipeg
Parsons, Robin Chester	(W)	Fortier
Paulson, Margaret	(W)	Winnipeg
Phillips, John E.	(W)	New Warren, Sask.
Phin, John Richard	(W)	Moosomin, Sask.
Popham, Earl Cameron	(W)	Winnipeg
Prud'homme, A. Arthur	(B)	St. Boniface
Riopelle, Wilfrid G.	(B)	Argyle, Minn.
Thomas, Robert	(M)	Roden
Thorsteinson, Gudmundar O.	(W)	Beaver
Thorvilson, Arthur W.	(M)	Winnipeg
Turner, Ada Hester	(W)	Beausejour
Wark, Harold	(W)	Winnipeg
Watson, Wm. D.	(M)	Winnipeg
Weir, Albert Jackson	(W)	Valley River
Wyrcykowski, Casimir T.	(B)	Beausejour
Zerebko, Orest	(M)	Winnipeg

Third Year.

GENERAL COURSE

Adamson, Morris	(W)	Carman
Beauchamp, Christine M.	(B)	So. Qu'Appelle, Sask.
Cairns, Amaret	(M)	Langbank, Sask.
Caldwell, Charles F.	(W)	Dauphin
Ewert, Alfred	(W)	Gretna
Gillespie, Alma L.	(J)	Winnipeg
Kerr, John Lindsay	(W)	Franklin
McCaw, Mina Pearl	(W)	Winnipeg
Pearson, Evelyn M.	(M)	Winnipeg
Simpson, Fred I.	(W)	Virden
Warkentin, Isaac J.	(W)	Winkler

Third Year—(Continued)

CLASSICS

Name.	College.	Address.
McKenzie, Roderick	(M)	Winnipeg
Surtees, Benjamin	(W)	Winnipeg

MODERN LANGUAGES

Adams, Irene S.	(W)	Winnipeg
Agar, Georgina	(M)	Brandon
Andrew, Mary A.	(W)	Winnipeg
Bell, Elizabeth	(M)	Macgregor
Middal, Ethel Laura	(W)	Winnipeg
Orr, Marian Evelyn	(M)	Winnipeg
Weir, Laura A.	(W)	Winnipeg

PHILOSOPHY (ENGLISH COURSE)

Name.	College.	Address.
Abrahamson, Simon	(M)	Winnipeg
Chapman, Frederick C.	(J)	Winnipeg
Copeland, Charles E.	(J)	Winnipeg
Dorey, George	(W)	Winnipeg
Kilfoyl, Roland H.	(W)	Macgregor
Singleton, Wilfred B.	(J)	Winnipeg

PHILOSOPHY (LATIN COURSE)

Bohemier, Charles A.	(J)	St. Norbert
Desorcy, Emile	(J)	Lorette
Gauthier, Charles H.	(B)	St. Agathe
Gauthier, Conrad	(B)	St. Agathe
Gelley, George Maurice	(B)	Winnipeg
Landry, Joseph N.	(B)	St. Norbert
Laurin, Alphonse	(B)	Dufresne
McTeigne, Gerald	(B)	Port Arthur, Ont.
Reardon, Leo Francis	(B)	St. Boniface

POLITICAL ECONOMY AND ENGLISH

Bell, Ezra D.	(U)	Baldur
Bloomer, Edith Mary	(M)	Basswood
Broad, Lloyd L.	(M)	Winnipeg
Coxworth, Morley W.	(W)	Regina, Sask

Third Year—(Continued)

Name.	College.	Address.
Evans, Allen Roy	(W)	Winnipeg
Everall, Earl S.	(M)	Portage la Prairie
Hjalmarson, Bjorn	(W)	Glenboro
Hopper, Clark R.	(M)	Newdale
Murdoch, Sophie May	(M)	Winnipeg
Paulson, Gordon A.	(W)	Winnipeg
Wilton, Winnifred M.	(M)	Winnipeg

POLITICAL ECONOMY AND HISTORY

Baird, Andrew Stuart	(M)	Winnipeg
Campbell, Russell Wm.	(M)	Winnipeg
Caswell, Walter B.	(M)	Saskatoon
D'Arcy, Norman J.	(M)	Winnipeg
Kane, Paul	(U)	Rathwell
Logan, Harold Thomas	(M)	Peachland
Milliken, Robert H.	(M)	Reston
Milroy, Reginald C.	(M)	Winnipeg
Norton, Glen	(M)	Winnipeg
Roblin, Charles D.	(M)	Winnipeg
Shinbane, Abbie M.	(M)	Winnipeg

HISTORY AND ENGLISH

Graham, Alma	(M)	Winnipeg
Green, Eva May	(W)	Winnipeg
Johnson, Hallgrimur	(W)	Winnipeg
Jonasson, Jones Th.	(W)	Candahar, Sask.
Kelly, Mildred H.	(W)	Winnipeg
Munroe, Ina Fraser	(M)	Winnipeg

NATURAL SCIENCE

DIVISION A.

Dolmage, Victor	(W)	Souris
Nason, William	(W)	Winnipeg

DIVISION B.

Lougheed, Morley S.	(W)	Cypress River

Third Year—(Continued)

DIVISION C.

Name.	College.	Address.
Haney, Clifford I.	(W)	Winnipeg
Winkler, Howard W.	(W)	Morden

DIVISION D.

Abbott, Wm. F.	(W)	Winnipeg
Brownlee, Thomas I.	(W)	High View, Sask.
Grain, Gerald O.	(J)	West Selkirk
Paterson, Donald Hugh	(M)	Winnipeg

MATHEMATICS

Eaton, Harris	(M)	Winnipeg
Menzies, Alastair F.	(M)	Virden
Naismith, William	(M)	Condie, Sask.
Pearson, Harold J. C.	(J)	Winnipeg

Fourth Year.

GENERAL COURSE

Brandon, Isabel	(W)	Winnipeg
Donnelly, Henry B.	(M)	Norwood
Fahrni, Roy C.	(W)	Gladstone
Howey, John Victor	(W)	Massie, Ont.
Kerr, Stanley H.	(W)	Franklin
McCool, Charles Wesley	(W)	Burriss, Ont.
McKnight, Almyra	(J)	Winnipeg
Magowan, Robert	(M)	Winnipeg
Miller, Charles S.	(M)	Winnipeg
Sibley, John C.	(W)	Winnipeg
Webster, Margaret	(W)	Portage la Prairie
Wilkins, James	(W)	London, Ont.

CLASSICS

McIntyre, Neil A.	(M)	Winnipeg
Paul, Morley P.	(W)	Govan, Sask.
Shearer, Wm. C.	(M)	Neepawa

MODERN LANGUAGES

Denby, Ella	(M)	Winnipeg
Evans, Albert E. A.	(J)	Winnipeg
Fox, Vera M.	(W)	Winnipeg

Fourth Year—(Continued)

Name.	College.	Address.
Leslie, Eva May	(W)	Winnipeg
McFarlane, Margaret E.	(M)	Winnipeg
McIntyre, Gladys I.	(M)	Winnipeg
McLenaghen, Myrtle V.	(M)	Portage la Prairie
Matheson, Norah E.	(J)	Winnipeg
Thompson, Jean H.	(M)	Winnipeg

PHILOSOPHY (ENGLISH COURSE)

Argue, Robert F.	(W)	Stittsville, Ont.
Chambers, Samuel D.	(M)	Winnipeg
Elliott, Albert L.	(M)	Maymont, Sask.
Lawson, Clarkson B.	(W)	Brandon
McQueen, Robert	(M)	Brandon
Morgan, Wm. Henry	(J)	Winnipeg
Palmer, John Francis	(W)	Oak River
Patterson, Douglas R.	(W)	Toronto, Ont.

PHILOSOPHY (LATIN COURSE)

Beaupre, Jean Baptiste	(B)	St. Boniface
Beliveau, Arthur	(B)	Winnipeg
Bertrand, Jacques	(B)	St. Boniface
Dutton, John Brockway	(B)	Sintaluta, Sask.
Lukacs, Joseph	(B)	Esterhazy, Sask.
Major, Fernand B.	(B)	Hull, Quebec
McManus, Joseph S.	(B)	Winnipeg

POLITICAL ECONOMY AND HISTORY

Bury, George A. E.	(U)	Winnipeg
Dixson, Percy John	(W)	Winnipeg
Gardiner, James G.	(M)	Clearwater
McEwing, Alexander	(W)	Calgary, Alta.
Noble, William M.	(W)	Glenboro
Rutherford, Gerald S.	(M)	Winnipeg
Siddall, Eldon R.	(M)	Lucknow, Ont.
Strang, John Argyle	(M)	Virden

POLITICAL ECONOMY AND ENGLISH

Morrison, Wesley	(W)	Grenfell, Sask.
Sissons, Melrose	(M)	Portage la Prairie

HISTORY AND ENGLISH

Johnson, Baldur	(W)	Candahar, Sask.
Mattheson, Edgar H. E.	(J)	Winnipeg
McGill, Leonard S.	(W)	Neepawa
Neville, Allen Erwin	(M)	Goodlands

Fourth Year—(Continued)

NATURAL SCIENCE

Name.	College.	Address.
Bjarnasson, Stefan A.	(W)	Maryhill
Doidge, Walter A.	(J)	Winnipeg
Lamont, Joseph L.	(M)	Treherne
McBride, Andrew	(M)	Winnipeg

MATHEMATICS

Adamson, Alan B.	(J)	Winnipeg
Cameron, Charles F.	(M)	Winnipeg
Campbell, John F.	(M)	Louise Bridge
Johannson, Johann G.	(W)	Poplar Point
Lindal, Walter	(W)	Holar, Sask.

SPECIAL STUDENTS

Bayne, Herbert Aubrey	(Engineering)	Winnipeg
Christopherson, John	(Arts)	Bru
Ferguson, Robert George	(Arts)	Yorkton, Sask.
Little, Charles G. M.	(Arts)	Armstrong, B.C.
Marshall, Tom	(Arts)	Winnipeg
Percivall, Maurice S. T.	(Arts)	Winnipeg
Schwab, George	(Arts)	Winnipeg
Strood, Percy Samson	(Engineering)	Winnipeg
Sweetnam, William	(Arts)	Winnipeg
Thexton, Clarence	(Engineering)	St. Thomas, N.D.
Cronn, George Bailey	(Engineering)	Winnipeg

MEDICINE

First Year.

Name.	Address.
Allan, James W.	Winnipeg
Arthur, Charles L. T.	Winnipeg
Aylen, Charles H.	Pembina, N.D.
Blakely, T. Nelson	Morden
Brown, Sidney	Winnipeg
Brown, Oliver H.	Winnipeg
Burke, Michael C.	Fairfax
Campbell, Edgar A.	Melita
Cooper, Herbert Spencer	Winnipeg
Friesen, Jacob A.	Altona
Gemmell, John	Tuxford, Sask.

First Year—(Continued)

Name.	Address.
Gillespie, Alexander J.	Regina, Sask.
Gorrell, W. Russell	Pilot Mound
Groff, Harry K.	Winnipeg
Harry, Benjamin H. O.	Armstrong, B.C.
Haverson, James Blain	Carman
Irvine, Vincent S.	Waskada
Kiteley, James A.	Tugaske, Sask.
Langham, John Donald	Winnipeg
McFarlane, Austin McPherson	Winnipeg
McGill, Frances G.	Minnedosa
McRae, Duncan F.	Carlyle, Sask.
McTavish, Belle	Newdale
Monk, Norman	Dunrea
Pedlow, W. Le Roy	Vancouver, B.C.
Petrie, Fred. M.	Hillcrest, B.C.
Potter, Winnifred A.	Brandon
Purdie, Frank Kidd	Findlay
Sharman, Harry Adolph	Winnipeg
Stewart, John Howard	Winnipeg
Waas, Charles W.	Winnipeg
Wallace, Stuart A.	Arden
Whitman, Thomas A.	Dauphin
Wilson, Graham	Winnipeg

Second Year.

Adamson, James Douglas	Winnipeg
Baragar, Charles A.	Elm Creek
Bell, Harry C.	Virden
Blight, Clayton Lee	Brandon
Boughton, Harvey C.	Arden
Brown, Robert Henry	Morden
Buchanan, James Harvey	Winnipeg
Burrows, Frederick Lindsay	Swan Lake
Cairns, James W.	Chesley, Ont.
Cassidy, Dimock S.	Frobisher, Sask.
Christilaw, John Albert	Keyes
Clarke, John Lester	Edmonton, Alta.
Collins, Ralph Burritt	Harrowby
Decosse, Phoenix	Somerset
Dyck, George	Carman
Holmes, Clarence W.	Crystal City
Johnston, Clarence Woods	Morden
McClelland, Charles V.	Letellier
McIntyre, William Hubert	Winnipeg
McKenzie, Hector Charles	Vancouver, B.C.
McTavish, George Boyd	Plum Coulee
Mann, William Lawson	Macklin, Sask.
Menzies, Adam Fisher	Winnipeg
Morley, Harvey W.	Dauphin
Nicholson, John Robert	Dauphin
Onhauser, Vernon T.	Winnipeg
Picard, Joseph	Winnipeg

Second Year—(Continued)

Name.	Address.
Prendergast, James	St. Boniface
Rollins, Nelles	Killarney
Stewart, Neil Roy	Weyburn, Sask.
Treleaven, George W.	Killarney
Trimble, Noble G.	Winnipeg
Turner, Frank M.	Winnipeg
Warner, Edwin Lloyd	Winnipeg
Whitmarsh, Harland Chester	Winnipeg
Wood, John F.	Miami

Third Year.

Alfred, Andrew A.	Oak Lake
Bates, William John	Winnipeg
Bird, Frederick Valentine	Ercildoune
Blondal, August	Winnipeg
Cameron, Lyle John	Shoal Lake
Chestnut, William A.	Winnipeg
Cole, William	Melita
Dunham, Franklin F.	Portage la Prairie
Ferg, Edwin James	Arden
Floyd, Frank H.	St. Frances, Ont.
Fryer, Irwin O.	Winnipeg
Groulx, Donald L.	Reston
Gunne, Livingston G.	Kenora, Ont.
Heringer, Wilfred J.	North East Bay
Kiteley, John Edgar	Tugaske, Sask.
Mathers, Alvin Trotter	Neepawa
Monro, Campbell H.	Ethelbert
Murray, Angus Allan	Mt. Thom, Picton, N.S.
Ross, Edith Mackay	Winnipeg
Sadleir, John Frederick	Strathroy, Ont.
Stewart, Aubon Earl	Winnipeg
Waite, James	Oak Lake
Williams, Gerald S.	East Kildonan

Fourth Year.

Banting, Charles Orby	Wawanesa
Bedford, George Victor	Winnipeg
Bunn, Charles Randolph	Winnipeg
Campbell, William Ewert	Winnipeg
Jackson, Frederick W.	Stonewall
Jamieson, Fred Lawrence	Winnipeg
Kerster, John Kennedy	Oakner
McConnell, Lorne H.	Hamiota
McEachern, John D.	Newport, P.E.I.
McKinnon, Frank Lorne	Winnipeg
Moran, John E.	Winnipeg
Murison, James Alois	Winnipeg
Sharman, William James	Russell

Fourth Year—(Continued)

Name.	Address.
Shaw, Edward Albert	Minto
Sproule, Abner	Richard, Sask.
Stephanson, Stephan	West Selkirk
Straith, Peter L.	Eyebrow, Sask.
Strong, C. Maurice	Medicine Hat, Alta.
Talbot, Albert E.	Calgary, Alta.
Tompsett, David A.	Goodlands
Warner, Norman Wilfred	Winnipeg

Fifth Year.

Armstrong, George Perry	Carman
Atkinson, Wilfrid L.	Gladstone
Beech, Stuart Eccles	Salt Spring Island, B.C.
Bryant, Frank Millwood	Shellmouth
Clare, Charles Morley	Winnipeg
Elliott, William James	Bluevale, Ont.
Fahrni, Gordon Samuel	Gladstone
Fraser, John Brereton	Franklin
George, James Polson	Morden
Little, Edwin L.	Pilot Mound
McIntyre, Dougald	Winnipeg
McKenty, Donald Edmund	Winnipeg
Martin, John Roy	Newdale
Miller, Thomas	Alder Grove, B.C.
Mooney, George W.	Lacombe, Alta.
Richardson, James G.	Winnipeg
Rose, Stuart Mason	Minnedosa
Scribner, John F.	Winnipeg
Stefansson, Jon	Winnipeg
Storey, Herbert E. A.	Lenore

CANDIDATES FOR MEDICAL LICENSE

Bonin, Adrien	Winnipeg
Friesen, Henry J.	Gretna
Kalichmann, Hersch	Winnipeg
Johnston, Llewellyn H.	Sprague
Lambert, William Hamilton	Arnprior, Ont.
Laurendeau, Narcisse Albert	St. Boniface
Moyse,, Acram	Winnipeg
Prevost, J. M. E.	Winnipeg
Saucier, J. T. O.	St. Claude
Montgomery, Wesley G.	Gorrie, Ont.

ENGINEERING

First Year.

Name.	Address.
Adamson, Philip E.	Langham, Sask.
Cashdan, Hyman	Winnipeg
Childerhose, Erwin A.	Winnipeg
Dickson, William J.	Winnipeg
Forbes, Frederick A. G.	Prince Albert, Sask.
Forbes, James F. N.	Prince Albert, Sask.
Fraser, John Philip	Winnipeg
McKinnon, Hugh William	Winnipeg
McLeod, Norman	Estevan
Markham, Edwin	Winnipeg
Mawhinney, David M.	Holland
Mawhinney, William George	Holland
Morris, Harold Irwin	Winnipeg
Richardson, William Henry	Stockton, England.
Starodvorov, Alex.	Winnipeg

Second Year.

Auger, Albert	St. Boniface
Betournay, Louis	St. Boniface
Bellhouse, Richard W. S.	Winnipeg
Boynton, Vern K.	Winnipeg
Collins, William Scott	Miami
Earle, Fred. Graham	Brandon
Johnston, Bruce A.	Deloraine
Johnston, Harold L.	Winnipeg
Jones, William Henry	East Kildonan
Knox, William D.	Winnipeg
Leslie, James Frank	Winnipeg
McPherson, David E.	Winnipeg
Munro, James Calder	Miami
Ruttan, John Douglas	Winnipeg
Sharpe, Clarence B.	Listowel, Ont.
Tait, Victor Hubert	Winnipeg
Urie, Harry	Deloraine
Wallace, William Sherriff	Fort William, Ont.

Third Year.

Croll, Victor Theodore	Winnipeg
Cruickshank, Raymond	Winnipeg
Easton, Leonard	Winnipeg
Fingland, William C.	Winnipeg
Irvine, Joseph H.	Winnipeg
Mitchell, Coulson Norman	Winnipeg

Third Year—(Continued)

Name.	Address.
O'Reilly, Richard Hamilton	Selkirk
Saltzman, Herman	Winnipeg
Shanks, Gordon Lane	Winnipeg
Taunton, Arthur John	Winnipeg

Fourth Year.

Cavanagh, Albert Lee	Winnipeg
Dynes, William Warren	Winnipeg
Easton, Roy	Winnipeg
Karlan, Samuel George	Winnipeg
Landon, Charles Sydney	Winnipeg
Lothian, Robert I.	Pipestone
O'Reilly, J. A. H.	Portage la Prairie
Rimmington, Harry Stanley	Winnipeg

LAW

First Year.

Graham, Archibald Muir	Winnipeg
Hayes, Frederick Charles	Winnipeg
Hetherington, Frank M.	Winnipeg
Lee, Raymond McFarlane	Winnipeg
Leighton, Percivale Robert	Birtle
Macdonald, Malcolm W.	Calgary, Alta.
McGreevy, Ernest William	Winnipeg
McNabb, Oliver G.	Winnipeg
Milne, John Jamieson	Winnipeg
Redman, Daniel Lee	Calgary, Alta.
Richardson, Bert V.	Morden
Robinson, Thomas Wesley	Winnipeg
Taylor, Frank Trafford A.	Winnipeg
Thompson, Edward Payson	Winnipeg

Second Year.

Dixon, Charles Henry	Winnipeg
Dysart, George A. H.	Winnipeg
Gerrand, Ernest Walter	Virden
Haig, Gordon Stuart	Alexander
Hancock, John	Winnipeg
MacMillan, Allan O'Neill	Watrous, Sask.
McVicar, John A.	Winnipeg
Morrison, John W.	Winnipeg
Sypher, J. R.	Morden
Thompson, Frederick George	Winnipeg
Williams, David	Vancoaver, B.C.
Wyness, Harvey Phin	Regina, Sask.

Third Year.

Name.	Address.
Cumming, William Purdon	Regina, Sask.
George, John Milton	Deloraine
Guild, William Forbes	Kemnay
Honeyman, Egbert	Douglas
Hoskins, Ronald	Manitou
Kilbourne, Robert Bruce	Hartney
McMillan, Norman A.	Winnipeg
Masterman, Lawrence A.	Winnipeg
Sirett, Ebenezer Tom	Minnedosa
Tingley, George Russell	Wawanesa
Wallar, John Franklin	Winnipeg
Whitman, Herman Alton	Yorkton, Sask.

AGRICULTURE

Third Year.

Abel, Peter Macdonald	Fort Qu'Appelle, Sask.
Blakeman, John Edwin	Elkhorn
Bridge, James Henry	Battleford, Sask.
Dryden, John Cameron	St. Agathe
Gordon, Kenneth W.	Winnipeg
Jones, George Herbert	Carman
Longman, Oliver Stanley	Deloraine
Raynor, John George	Ewert
Smith, John Macgregor	Clearwater
Thompson, James Wood	Winnipeg
Wimrett, Richard B.	Winnipeg

Fourth Year.

Blackstock, Adna Lewis	Paynton, Sask.
Evans, James Howell	Winnipeg
Milne, Robert	Mekiwin
Qually, Arvil Edwin	Dacotah
Shanks, Graham Lawson	Pettapiece
Stephen, William John	Winnipeg
Walker, Harry Ewert	Newdale
Weston, Joseph Read	Winnipeg
Whiteman, Robert	Russell

Fifth Year.

Crawford, Frederick Walter	Chater
Harrison, Thomas James	Graysville
Jones, Edgar Ward	Carman

Fifth Year—(Continued)

Name.	Address.
McMillan, Archibald John	Griswold
Noble, John Carmichael	Brandon
Partridge, Charles Grover	Sintaluta
Smith, John Cochrane	Cartwright
Tinline, Milton John	Elkhorn
Thomson, William Walter	Carberry
Thompson, Harry Nelson	Sourisford

EXTENSION COURSE IN ENGLISH LITERATURE

Acheson, Miss Mary H.	Winnipeg
Alexander, Miss Margaret	Winnipeg
Anderson, Miss Maud H.	Winnipeg
Bernhardt, Miss Alma	Winnipeg
Biggar, Mrs. A. M.	Winnipeg
Breen, Miss E. E.	Winnipeg
Broad, Miss L. L.	Winnipeg
Brydon, Miss C. A.	Winnipeg
Bulmer, Miss C. A.	Winnipeg
Campbell, Miss I.	Winnipeg
Chapman, Miss L. R.	Winnipeg
Chisholm, Miss A. L.	Winnipeg
Cole, Miss L. O.	Winnipeg
Corbett, Miss M.	Winnipeg
Corbett, Miss E.	Winnipeg
Cornell, Miss A. C.	Winnipeg
Cottingham, W. R.	Winnipeg
Crease, Miss M.	Winnipeg
Cuthbert, Miss Emily	Winnipeg
Cuthbert, Miss Eunice	Winnipeg
Dennistoun, Mrs.	Winnipeg
Downie, Mrs. D. A.	Winnipeg
Doyle, Miss B.	Winnipeg
Doyle, Miss F. F.	Winnipeg
Elliott, Miss G. B.	Winnipeg
Erwin, Miss M.	Winnipeg
Gilbert, Miss E.	Winnipeg
Glenn, Miss A. L.	Winnipeg
Gordon, Miss A. R.	Winnipeg
Gordon, Miss M. M.	Winnipeg
Gottfred, Miss L.	Winnipeg
Gowanlock, Miss M.	Winnipeg
Graham, Miss G. W.	Russell

Name.	Address.
Greenway, Miss C. M.	Winnipeg
Hamilton, Miss Mary	Winnipeg
Hamshaw, Miss Edith	Winnipeg
Hand, Miss E. B.	Winnipeg
Harper, Miss M.	Winnipeg
Holland, Miss F. E.	Winnipeg
Hutchison, Miss M. W.	Winnipeg
Johnson, Miss H.	Winnipeg
Jordan, Miss A. L. M.	Winnipeg
Lawrence, Miss E. A.	Winnipeg
Lipsett, Miss G. E.	Winnipeg
Long, Mrs. A. J.	Winnipeg
Long, Miss B.	Winnipeg
Ludham, Miss E. P.	Winnipeg
MacCallum, Miss C.	Winnipeg
Mackay, Mrs. Hugh	Winnipeg
MacLean, Miss E.	Winnipeg
Maybank, Miss	Winnipeg
Maxwell, Mrs. M. S.	Winnipeg
McArthur, Miss P. I.	Norwood
McGougan, Miss M. H.	Winnipeg
McKiechan, Miss H.	Winnipeg
McLean, Miss A.	Winnipeg
McManus, Miss M. L.	Glenella
Milne, Miss A. S.	Winnipeg
Milne, Miss C. J.	Winnipeg
Moir, Miss Mary E.	Winnipeg
Munroe, Miss C.	Winnipeg
Norman, Mrs. E.	Winnipeg
Oswald, Miss O. M.	Winnipeg
Partridge, Miss N.	Winnipeg
Pearce, Miss C.	Winnipeg
Philip, Miss M. B.	Winnipeg
Playfair, Miss C.	Winnipeg
Ptolemy, Miss J.	Winnipeg
Rewe, Miss Ada	Winnipeg
Rewe, Miss Annie	Winnipeg
Riley, Miss M.	Winnipeg
Sanders, Miss E. V.	Winnipeg
Schofield, Miss C.	Winnipeg
Snowball, Miss M. E.	Winnipeg
Solmundson, Miss G.	Winnipeg
Sullivan, Miss N.	Winnipeg
Symes, Miss M. B. H.	Winnipeg
Taylor, Mrs. D. J.	Winnipeg
Thompson, Miss Elizabeth	Winnipeg
Wallace, Miss	Winnipeg
White, Miss Lillie	Winnipeg
Winstone, Miss Gertrude M.	Winnipeg
Yuill, Miss C. M.	Winnipeg

EXTENSION COURSE IN POLITICAL ECONOMY

Name.	Address.
Aikins, W. L.	Winnipeg
Baker, Fred. J.	Winnipeg
Cathcart, George E.	Winnipeg
Elliott, G. J.	Winnipeg
French, T.	Winnipeg
Fretwell, E.	Winnipeg
Guild, C. K.	Winnipeg
Hegan, C. R.	Winnipeg
Horsham, A. G.	Winnipeg
Keangh, H.	Winnipeg
Monin, A. L.	Winnipeg
Morris, C.	Winnipeg
Taylor, C. M.	Winnipeg
Thompson, F. B.	Winnipeg
White, G. G.	Winnipeg
Whittaker, F. J.	Winnipeg
Woolverton, C. L.	Winnipeg

EXTENSION COURSE IN ENTOMOLOGY, ORNITHOLOGY AND ZOOLOGY

Coates, Miss Barbara	Winnipeg
Craig, Miss E. B.	Winnipeg
Gordon, Miss M. M.	Winnipeg
Harper, Miss Margaret	Winnipeg
Le Page, Miss M. P.	Winnipeg
Milne, Miss C. J.	Winnipeg
McKenzie, Miss L. M.	Winnipeg
Oswald, Miss O. M.	Winnipeg
Playfair, Miss C.	Winnipeg
Watson, H. W.	Winnipeg

SUMMARY

Students in Arts—		
First Year	141	
Second Year	81	
Third Year	76	
Fourth Year	62	360
Students in Engineering—		
First Year	15	
Second Year	18	
Third Year	10	
Fourth Year	8	51
Students in Medicine—		
First Year	34	
Second Year	36	
Third Year	23	
Fourth Year	21	
Fifth Year	20	
Medical License	10	144
Students in Law—		
First Year	14	
Second Year	12	
Third Year	12	38
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Third Year	11	
Fourth Year	9	
Fifth Year	10	30
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